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**The mental health and social wellbeing of uk ex-service personnel
the resettlement process**

Burdett, Howard

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**THE MENTAL HEALTH AND SOCIAL WELLBEING
OF UK EX-SERVICE PERSONNEL: THE
RESETTLEMENT PROCESS**

Submitted by Howard Burdett

**For the Degree of PhD in Epidemiology at King's
College London**

Abstract

The King's Centre for Military Health Research has collected data on a cohort of approximately 10,000 UK Service personnel from 2003-2008, some of whom (n = 2,253) have left the military over the period in which data collection has occurred. This thesis focuses on those individuals previously in regular (i.e. full-time) service who have left the Armed Forces. At the point of leaving, personnel undertake a number of activities intended to facilitate their transition into civilian life and employment; this is termed "resettlement". Concern is often raised about the ex-Service community's mental health, homelessness, re-entry into the civilian workforce, and general reintegration into civilian society. Working with this cohort data, this thesis investigated the demographics of Service personnel undertaking resettlement; their transition outcomes in terms of mental health, employment, housing situation, social network, and other markers of social exclusion; the relationships between these outcomes; and the effects of resettlement.

Primarily, this thesis shows that resettlement provision has an effect on transition as a result of two relationships – it is associated with higher likelihood of employment, and independently with better mental health. Through these relationships, resettlement has indirect effects on every other domain of transition.

Additionally, I have demonstrated that unsuccessful transition is related to pre-enlistment adversity, and lacking a long-term partner. Military factors play relatively little role in post-Service outcomes, although the method by which the individual leaves Service can affect their transition; those who leave in an abrupt, unplanned manner (including those with medical discharges) are more at risk. Outcomes improve with time after the individual has left service.

Overall, this thesis shows that ex-Service personnel do not generally have difficulty transitioning to civilian life, and this transition is facilitated by undertaking resettlement. Nonetheless, some groups are at greater risk of poor transition outcomes.

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Declaration

My thesis is part of a series of studies being conducted at the King's Centre for Military Health Research (KCMHR), King's College London, where I have been enrolled for completion of my PhD. I was not involved in the design, ethics, or data collection of the underlying KCMHR military health cohort study. I worked at KCMHR (prior to commencement of my PhD studies, September 2008-2009) at which time I was involved with the data cleaning of questionnaire responses (including recoding multiple responses, coding write-in answers, etc.). On commencement of my PhD in October 2010, I began working on the responses for post-Service experiences. I was responsible for cleaning and re-coding these data. I also contacted the records centres of each of the Services to request official resettlement records.

Following this data cleaning work, I generated variables suitable for analysis (as described above), and merged the resulting database with other information (particularly the geographic information described below). I developed the aims and hypotheses of the overall thesis as well as those presented in outcome-specific Results chapters, and undertook the data analyses presented in this thesis. While the primary method of analysis (i.e. logistic regression) was suggested by my supervisors, other methods were my own choices, as were the ways in which I applied independent variables and the manner in which adjusted models were developed. In particular, I developed my own approach to formulating an overall model as shown in Chapter 13.

All work undertaken as part of my thesis was supervised by Dr Nicola Fear and Professor Christopher Dandeker.

Statement of authorship

Howard Burdett carried out the drafting and preparation of this thesis under the supervision of Dr Nicola Fear and Professor Christopher Dandeker. Dr Nicola Fear and Professor Christopher Dandeker read and commented on the entire draft.

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Finally, I thank all my family, my friends, and in particular one Diana Thompson, for their love and care – no student could ask for a more supportive social network.

List of abbreviations and acronyms

AFPBR	Armed Forces Pay Review Board
AUDIT	Alcohol Use Disorders Identification Test
CI	Confidence Interval
CMD	Common Mental Disorders
CO	Commissioned officer
DASA	Defence Analytical Services Agency
EER	Employment, education and retirement
EOD	Explosive Ordnance Disposal
ESL	Early service leaver
FIW	Family interference with work
FTRS	Full-Time Reserve Service
GHQ	The 12-item General Health Questionnaire
HERRICK	Not an acronym; refers to the post-2003 UK operations in Afghanistan
IRR	Incidence rate ratio
KCMHR	King's Centre for Military Health Research
LOS	Length of service
LSOA	Lower-level Super Output Area
MAP	Medical Assessment Programme
MOD	Ministry of Defence
NAO	National Audit Office
NCO	Non-commissioned officer
OA	Output Area
OR	Odds Ratio
PCL	The Post-Traumatic Stress Disorder Check List (civilian version)
PEV	Pre-enlistment Vulnerability
PTSD	Post-Traumatic Stress Disorder
RAF	Royal Air Force
RN	Royal Navy
RRR	Relative Rate Ratio
SNLR	Services No Longer Required
TELIC	Not an acronym; refers to the post-2001 UK operations in Iraq
WFC	Work-family conflict
WIF	Work interference with family

Chapter 1 Introduction

Over the last decade, there have been around 200,000 UK military personnel at any one time (Ministry of Defence, 2011), though this number is being reduced and is likely to be approximately 160,000 by 2015 (Ministry of Defence, 2010c). There are about 20,000-25,000 UK Service leavers annually (Career Transition Partnership, 2009); thus around 10% of the UK Armed Forces re-enter civilian life in any given year. Some (generally senior commissioned officers) will have served effectively their entire working lives, and retire on a full pension, but most will have served for a considerably shorter time than this, and need to begin some new career path on leaving the Services.

The lives of Service leavers will change in many other ways. They may need to find new accommodation as they leave Armed Forces housing. They may have to relocate, according to the demands of jobs or family. Other forms of support, such as medical and mental health care, are no longer supplied in the fashion to which the individual has become accustomed. Further, their social circle may change; during Service, the individual might have spent many hours in the company of a small, tight-knit group, each ready to put their lives at risk for their fellows. After leaving Service, not only will the leaver no longer have the same level of day-to-day exposure to their military colleagues, but they will naturally grow further apart as in-Service postings, family situation, and migration to jobs all contribute to separation from their previous Service-based social circle.

Any or all of these issues may pose considerable challenges for the Service leaver. The process of leaving Service and entering civilian life is generally termed “transition”, and the Service leaver may have to progress in all the dimensions mentioned above in order to make a successful transition. Military institutions across the world are not unaware of the difficulties that Service leavers may face, and have developed provisions to facilitate transition. In the UK, this is known as the “resettlement” provision. Before describing

the existing literature and its shortcomings, military careers and methods of leaving the Services must be described, as well as the UK resettlement provision itself.

1.1 Military careers and methods of leaving the Services

When a recruit joins the UK Armed Forces (whether as an officer or an enlistee, and for any Service arm), he or she signs on for a term which can vary depending on the nature of the engagement. For example, the Army Terms of Service Regulations state that personnel can enlist on a “short service engagement” of 6 months to 12 years; a “versatile engagement”, which is normally of 12 years but which can be for 24 or 30 years in some corps, and can be extended by 12 years (6 years for those with 24 or 30 year original terms) or to 55 years of age (65 for those with a 30 year original term) (The Army Terms of Service Regulations 2007). In practice, however, careers generally follow a more straightforward pattern: a recruit to one of the Armed Services must complete a basic term (usually 4 years), with those who leave before completing this period called “Early Service Leavers”¹ (henceforth “ESLs”).

After completing their basic term, Service personnel must actively choose to stay in the military in order to reach full pension. Serving personnel will reach certain time points during their career at which they will automatically leave unless they take action to continue a military career (e.g. the point at which their initial “versatile engagement” is complete, where they must apply for extension). Outside these time points, personnel must take action in order to leave through such mechanisms as “Premature Voluntary Release” (The Queen's Regulations for the Army 1975: Amendment 29, , 2009d), whereby a Service member can make an application to leave after their minimum term

¹ Minimum lengths of service are 4 years for Army recruits (or until 22nd birthday for under-18 year olds, potentially as much as 6 years); 3 years or 3½ after completion of training (whichever is longer) for Navy recruits; and 4 years or 3 years after completion of training (whichever is longer) for RAF recruits.

but before completion of their current term of service. Services have the right to refuse such an application.

The individual will, in most circumstances, have completed their full contractual obligations and have reached full pension entitlement after serving for (usually) 22 years. Service periods beyond this point are generally not granted except to commissioned officers; thus enlisted personnel (non-commissioned officers and private-equivalent ranks) will usually leave at this point, aged around 40 years (except for a small number of NCOs who become late-entry officers (Ministry of Defence, 2009c)).

Service careers are structured so that leaving at any point after the basic term and before term completion is voluntary. Personnel are aware of their contractual end point when they choose a military career; thus, whether their leaving is a choice by the individual or triggered by reaching a contractual endpoint, it is a planned event based on an agreement entered into voluntarily (Jones, 2012).

The exceptions are those that leave involuntarily in an unplanned way. In some cases, the individual is not at fault – for example, some leave due to medical discharges. Others are forced to leave due to actions that are breaches of regulations by the individual (i.e. dishonourable discharge). Other methods of involuntary discharge are the result of negative behaviours that do not justify a disciplinary discharge. For example, those discharged for “temperamental unsuitability” might simply be a “bad fit” with the Forces.

Overall, these considerations give rise to numerous groups of leavers, which can be grouped in two ways; either by voluntary/involuntarily leaving, or by planned/unplanned exit (for details see Table 4-7). “Planned” and “voluntary” are not necessarily the same (as some may reach the end of their contractual service and simply not be given the opportunity to stay). For the remainder of this thesis, “unplanned”

leavers are those whose exit occurs outside the normal ending points and is initiated by the employer irrespective of the wishes of the leaver, while “planned” leavers comprise both those who leave at normal ending points (irrespective whether that would be their ideal choice) and those who exit prematurely under their own initiative.

1.2 UK resettlement provision

For UK “regulars” (full-time military personnel) the process of resettlement should begin 2 years before formally leaving military Service. Since 1998, resettlement provision has been centrally administered from the Ministry of Defence (MOD). All Service leavers are eligible for the first two tiers of support, which are provided at the single Service level (e.g. by regimental personnel with the necessary training), with higher tiers of support (including career consulting and retraining) provided by a partnership with a private contractor (currently Right Management). Costs of resettlement were calculated by the National Audit Office (NAO) as nearly £115 million for 2006-2007 (National Audit Office, 2007).

The first tier involves a staff officer providing information on what is available to the leaver and facilitates access to the provision for which the service leavers is eligible. The second level of support involves a resettlement adviser providing guidance on which resettlement services will best suit the leaver.

Entitlement to upper tier resettlement is based primarily on length of Service. This is partly to reward those with longer service, and partly due to the idea that longer Service may cause “institutionalisation” (Higate, 2001) and hence difficulty readjusting and breaking old social networks to form new civilian connections. The degree of

resettlement entitlement is not based around any objective measure of need or likely utility², beyond this latter assumption.

Only those who have served at least 6 years are entitled to the full resettlement package, which includes extensive employment-related workshops and retraining. Those with a shorter term of service (4-6 years) have access to advice and job-seeking support³. Those who have served for less than 4 years are given the minimum level of provision: receive a resettlement brief and an interview at unit level. They are directed to assistance they can receive from other government departments (and, where relevant, ex-Service charities). Contact is facilitated with Jobcentre Plus offices to help them find employment.

The full package (for those serving 6 or more years) includes full access to CTP workshops, eligibility for a grant towards retraining costs, and an amount of “graduated resettlement time” based on length of service (from 4 weeks to those meeting the basic criterion of 6 years service, to 7 weeks for those who have complete 16 or more years of service). Throughout this thesis, “resettlement” refers to this full package unless stated otherwise.

Those entitled to the full resettlement package are allocated a personal consultant, and access to the employment support programme. Briefings and workshops are central to the resettlement provision, particularly the Career Transition Workshop which is intended to help leavers identify transferrable skills, prepare a CV, research the job market, apply for jobs and prepare to interview. Other re-employment related workshops are available for specific aspects, such as starting a business. There are also

² Except for certain special groups, particularly those who are medically discharged.

³ Specifically, this group is entitled to the Career Transition Partnership Employment Support Programme. The employment support programme is available from 6 months before discharge until 2 years after leaving. Service leavers are assigned a career consultant to provide information on services available in their region. Leavers also have access to a jobs database, with their consulting potentially acting to facilitate contact with prospective employers.

workshops outside the specific remit of re-employment, include Financial Aspects of Resettlement and housing briefings. Guidance for those who intend to retire is also provided.

Leavers entitled to the full resettlement service are also granted access to retraining grants and opportunities. Internal training is provided at the Resettlement Training Centre in Aldershot, which provides courses on management, engineering, and building trades. Almost all can be paid for with the retraining grant, and many provide civilian qualifications. Alternatively, retraining grants may be spent on external training from a number of preferred suppliers known to ensure value for money.

There are exceptions to the above rules as a consequence of the individual's method of discharge. Those who are dishonourably discharged due to severe conduct problems lose any resettlement entitlement, while those medically discharged receive maximum entitlement, even if their length of service would otherwise entitle them to less.

Current provision is focused largely on re-entering the labour market (i.e. post-service employment status). The main intent of resettlement is to secure re-employment for the outgoing recipient. It is assumed that housing and family situations will be considered by advising parties (e.g. briefing officers) as part of the career mentoring process. Service leavers may be directed to other institutions that can provide them with welfare support (e.g. charitable organisations) (UK Army, 2008), but welfare itself does not form a part of the workshops and briefings which make up resettlement. Little attempt has been made by government institutions to directly address the wider aspects of welfare or social re-integration described above, on the assumption that, if employment can be secured, the remainder will arise naturally. A full definition of "successful transition" could be construed to include other socio-economic aspects, e.g. rewarding and consistent employment; appropriate and secure accommodation; adjustment to

living full-time with one's family; avoidance of financial and legal difficulty; the formation of a social network; and the maintenance of good mental health. It is these elements which have been most overlooked by existing research.

1.3 International comparisons and definitions of “veteran”

One particular difficulty encountered while investigating the international literature on veterans is that countries have different definitions of the term “veteran” (Dandeker et al., 2006). Other nations’ definitions of the term “veteran” may require a minimum period of service, or combat experience; in some cases, the “veterans” may include those in active service. Even within the same country, different institutions may have different definitions of “veteran”. In particular, a large proportion of the international literature focuses on US Vietnam-era veterans, who will not have been defined in the same way as British veterans. In the UK, a “veteran” is anyone who has served at least a single day; thus the terms “ex-Service” and “veteran” are technically interchangeable in this population (and treated as such in this thesis).

Literature from international sources does not generally subdivide sample populations along these lines, so it is not possible to derive comparison groups that are directly equivalent to UK veterans. These problems are mitigated in this thesis as a result of the following considerations:

- Many outcomes examined are only relevant to those who have left service, e.g. employment, so international literature involving these outcomes will exclude serving personnel
- Most international literature uses samples collected via institutions which would primarily be used by those who are no longer in service (e.g. Veterans Affairs hospitals in the US)

- UK literature is used preferentially, and hypotheses are drawn from UK literature if there is a conflict between UK and US (or other international) findings

1.4 Thesis outline

Chapter 2 of this thesis contains a literature review discussing the findings of the literature on transition and resettlement. Much of the available information regarding the resettlement process is provided by UK government sources, but there is some independent academic research. Other nations provide resettlement activities, but they may not be equivalent to the UK provision⁴, and data are rarely available; hence international comparisons are not possible in this thesis.

This thesis took a broad approach to the issue of transition, comprising multiple outcomes. No single framework yet exists with which to consider the numerous and potentially interdependent socio-economic and welfare domains of transition. Consequently, this thesis considered each domain separately before considering their effects on one another, and took an empirical approach to each outcome. Due to this breadth, it was more convenient to detail prior work within each domain separately; literature that is specific to each outcome domain of this thesis (e.g. literature on veteran re-employment or post-Service mental health) is discussed within the relevant Results chapter, rather than being included in the literature review in Chapter 2.

Chapter 3 contains the overall aims of this thesis, and general hypotheses arising from the literature discussed in Chapter 2. Hypotheses that are specific to each outcome domain are provided in the relevant Results chapters.

⁴ E.g. US forces generally receive little more than a group briefing, while the Australian Defence Force provides a network of Transition Centres to provide specialist wide-ranging support (Australian Government Department of Defence. (2013) 2013 ADF Transition Handbook.

Chapter 4 contains the Methods used in this thesis. It includes a description of the cohort study which provides the data underlying this thesis; an explanation of how the ex-Service sample I investigate was extracted from this cohort; an overview of the independent variables which will be used in statistical analysis of the outcome domains; descriptions of how the individual outcome variables have been generated, and the method by which they have been coded; and finally statistical methods used.

Chapter 5 examines a number of resettlement records obtained from the RAF archives, and compares them with the responses provided in the KCMHR questionnaire, to investigate the issue of engagement with resettlement. Thus this chapter will provide additional information on how personnel make use of the resettlement process, and serves to verify questionnaire responses on resettlement as presented in Chapter 8.

Descriptive statistics are presented in Chapter 6. This chapter describes the distribution of the ex-Service sample in terms of socio-demographic variables (e.g. sex, education) as well as military variables (e.g. rank, length of service). It also analyses the differences between planned and unplanned leavers.

Chapter 7 considers motivations for leaving: first by providing an overview of the literature on why personnel leave the Armed Forces, and then analysing the ex-Service sample of this thesis to determine which socio-demographic and military factors are associated with different reasons for leaving.

Having considered leaving Service in terms of how (in Chapter 6) and why (Chapter 7), I then analyse entitlement to and use of resettlement provision in Chapter 8. This chapter considers how socio-demographic and military factors are related to being entitled to resettlement, and also whether these factors affect whether the individual takes resettlement to which they are entitled.

Chapter 9 uses postcode information of respondent's home addresses. This chapter considers the locations of ex-Service personnel in this sample, and local levels of socio-economic deprivation. While deprivation in the local area does not necessarily reflect the circumstances of individuals, markers of deprivation provide information which is outside the scope of the questionnaire responses (for instance, the questionnaire only asks whether an individual is employed or not; income deprivation can imply information on quality of employment).

Chapters 10-12 investigate transition outcomes. Each of these chapters considers a number of outcome variables within a transition domain (Chapter 10 discusses labour market outcomes; Chapter 11 covers social exclusion; and Chapter 12 is concerned with mental health, alcohol misuse and physical violence). In each chapter analysis of the outcome variable is preceded by a discussion of the literature regarding the socio-economic and military factors which are associated with that variable in the veteran population, from which hypotheses are formed. Associations between the outcome of interest and independent variables (including resettlement) are then analysed. Chapter 12 also includes a comparison of in-Service and post-Service mental health. Discussions of findings are restricted to the Discussion chapter, and are not found in individual Results chapters.

Chapter 13 makes use of the findings from Chapters 10-12 to generate an overall model of the relationships between the outcome variables and independent factors. As with other Results chapters, relevant literature is discussed and hypotheses formed. Following this, the chapter generates a map of the relationships between outcomes, including the effect(s) of resettlement. This chapter also considers changes in mental health over the transition period (as the sample contains measures of the mental health of ex-Service personnel both during and after Service), and analyses cumulative outcome measures (i.e. measures which combine markers of unsuccessful transition).

Finally, Chapter 14 draws conclusions regarding the relationships found between the independent variables and outcomes and states the implications of these findings. Strength and weaknesses of this research and recommendations for further research are included.

Chapter 2 Review of literature regarding transition and resettlement

This chapter will investigate the existing literature on the transition process and resettlement provision offered to UK Service leavers. Lack of similarity in resettlement provisions prevents international comparisons on the specific effects of resettlement, though wider aspects of transition can be informed by the experiences of veterans from other nations. As this chapter will show, little effort is made to measure wider social or welfare aspects beyond re-employment (most likely due to the assumption that, if employment can be secured, other dimensions of transition will inevitably progress).

This chapter will first describe the existing literature on the characteristics of Service leavers, before providing an overview of the findings of official sources on the transition process, and finally discuss independent academic studies on the topic. This chapter will only discuss literature which informed hypotheses and was examined before commencement of the subsequent analyses presented in this thesis, and hence does not include literature published after 2011 (except some cases where papers were available before print, and hence were read before 2011 but have publication dates after this time). This also applies to outcome-related literature discussions in the individual Results chapters. Nonetheless, literature published after this date will be considered in the Discussion chapter.

2.1 Characteristics of Service leavers

It is not the case that all military personnel leave Service when their term is complete or involuntarily when they are discharged for medical or behavioural reasons. In practice, many leave voluntarily in a wide range of circumstances, and some are made redundant for reasons which have nothing to do with their actions or performance. This chapter will discuss literature regarding Service leavers in general; the specific methods of how

military personnel leave Service are considered in Chapter 6.4, and (where leaving is voluntary) the reasons why they choose to leave are discussed in Chapter 7.

In the UK, the King's Centre for Military Health Research (KCMHR) has recruited and studied several large groups of UK Armed Forces personnel. Two major cohorts include a study of the health of those who served in the 1991 Gulf War (henceforth the "King's Gulf War cohort") (Unwin et al., 1999), and a later cohort initially intended for the study of those who served in the later Iraq war from 2003 (henceforth the "King's Iraq War cohort") (Hotopf et al., 2006) which is the primary data source for this thesis. Among the King's Gulf War cohort, officers (commissioned and non-commissioned) were less likely to leave Service than junior personnel, men were less likely to leave than women, and those in the Army were more likely to leave than those in other Services. Poor mental health and post-traumatic stress symptoms were also predictors of leaving (Iversen et al., 2005b).

Among the King's Iraq War cohort, ESLs were less likely to be men, and more likely to be single, of lower rank, have experienced greater childhood adversity and be from the Army (Buckman et al., 2013). Deployment to Iraq was not associated with being an ESL among this cohort.

2.2 Transition and the resettlement process: official sources of information

A considerable body of literature exists regarding the experiences of ex-Service personnel, but there is little evidence available which discusses transition from military to civilian life, or considers the effect of the resettlement process. However, government bodies which provide resettlement, and those which are responsible for overseeing them, do publish relevant information.

An NAO survey of 4,997 Service leavers who left the Services between 2004 and 2006 (including those who did not have access to resettlement) asked how easy Service leavers had found transition to civilian life, receiving a 13% response rate. 38% of leavers found transition to civilian life as easy as they expected, and 36% easier than expected (National Audit Office, 2007). The NAO survey found no evidence of a “military retirement syndrome” (the idea that “institutionalisation” causes increasing difficulty in readjustment (McNeil and Giffen, 1967)) – on the contrary, younger, junior Service leavers reported the most difficult transitions. Reconnecting to civilian social life and family relationships, rather than re-employment, were perceived as the most difficult issues – these are areas not explicitly handled by the resettlement services.

Government sources report similarly high satisfaction with the resettlement process. The UK Ministry of Defence publishes reports in conjunction with the civilian provider of the resettlement process (Right Management). These find high levels of satisfaction with the resettlement programme among those who utilise its services. Satisfaction rates regarding the resettlement services provided were 72%-75% for those discharged between 2006-2008 surveyed 6 months after discharge, with overall rates of satisfaction with the transition process (comprising many factors, including personal satisfaction with employment status) between 75% and 81% (Career Transition Partnership, 2009).

Satisfaction with services does not necessarily translate to utility; while 65% of respondents to the NAO survey found the careers website useful, only 3% found their first employment through its services (National Audit Office 2007). Senior ranks reported higher satisfaction with the resettlement process than junior ranks – possibly due to the latter having less job control (Fear et al., 2009), and hence reduced access to resettlement activities. Anecdotal reports concur that access to resettlement can vary according to personal circumstance (Tregaskes, 2011). It is also suggested by NAO statistics (National Audit Office, 2007), which show that around 10% of Service leavers

who are eligible do not attend any upper tier Career Transition Partnership courses. 46% of those not attending a financial awareness briefing were not aware that it was available to them. 18% of those not attending the housing briefing were not aware of it. 1.7% of all leavers responded that they were not aware of resettlement provision at all, particularly junior ranks and those medically discharged.

2.2.1 Official sources: socio-economic outcomes

The only outcome of the resettlement process which the MOD formally assesses is re-employment. The NAO survey found that 74% of respondents (including those who did not take resettlement) were in full time work post-discharge, with 6% seeking work (the remainder being in a variety of other situations, e.g. full-time education, retirement, or acting as a domestic carer) (National Audit Office, 2007). This figure for job seeking agreed with the MOD's ongoing surveys of Service leavers (Career Transition Partnership, 2009), which are similar to job-seeking levels among the general population. Those MOD surveys indicated that, among leavers who had taken the full resettlement package (surveyed 6 months post-discharge), 90% were in paid employment between 2007 and 2009 (Career Transition Partnership, 2009).

While re-employment is the only outcome tracked by the MOD as part of their ongoing resettlement auditing, the NAO survey did explore other outcomes. 11% of all leavers in the survey indicated financial difficulty in Service, and 13% reported such after leaving. Financial difficulty was more common among those who had been compulsorily discharged (47%) and junior ranks (28%). 5% of respondents had been homeless at some stage since leaving Service, mostly those who were younger and of junior rank. The military provide some post-Service accommodation support, but of those who did not own a house at the time of discharge, only 13% were made aware of this assistance. Since 2004, it has been mandatory that ESLs receive an interview including an assessment of vulnerability to social exclusion, with those assessed as vulnerable

offered additional resettlement help (including access to some Career Transition Partnership).

Overall, while these surveys show that Service leavers have similar short-term employment levels to the general population, and indicate a generally good level of satisfaction with the process for those who undertake it, they do little to analyse the actual effectiveness of resettlement. Comparisons between those who do and do not undergo resettlement are few. Furthermore, these surveys provide little direct evidence that resettlement improves outcomes as regards socio-economic and psychosocial reintegration.

2.2.2 Transition for at-risk groups of Service leavers

Certain groups of Service leavers have different transition routes due to personal circumstances. Those with shorter Service terms, and those who leave through disciplinary, administrative, or medical discharges are more at risk of future homelessness (Milroy, 1998; Dandeker et al., 2004). One particular at-risk group of interest are ESLs (who have not completed a term of Service, and have only minimal resettlement provision). The NAO surveyed 1,530 ESLs and found that 34% were claiming Job Seekers Allowance (National Audit Office, 2007). More recent MOD figures show between 30% and 40% of ESLs claiming Job Seekers Allowance on discharge between 2006 and 2008, dropping to 10-20% six months after discharge (Career Transition Partnership, 2009). As ESLs are largely excluded from resettlement, this could imply a positive effect of resettlement as non-ESLs do have higher employment rates (as described in 2.2.1 above). This information still does not represent direct evidence of a positive effect of resettlement, as ESLs are a non-randomly selected population – their length of service is short, and they may be leaving early due to personal difficulties (or, alternatively, those medically discharged may find it more difficult to obtain employment for practical reasons). Furthermore, the above data only

informs how many are taking Job Seekers Allowance; those not working but not seeking this benefit are not included.

The NAO reported that those medically discharged required no additional resettlement support, indicating they should have no difficulty gaining civilian employment. Although these individuals are entitled to the full resettlement programme, discharge may occur too swiftly for resettlement to be delivered. Personnel who are medically discharged may defer entitlement or transfer it to a spouse, but 40% of those medically discharged were not aware of resettlement support from the Career Transition Partnership, despite the fact that 78% of medical dischargees were known to the Partnership. While the NAO recognised that *“the Department should build on its current arrangements to ensure that all Service Leavers who are medically discharged get an assessment to identify any additional resettlement support they may need”*, it stated that *“[the MOD] has identified issues with the take up by medically discharged Service Leavers and has resolved them”* (National Audit Office, 2007).

2.2.3 Limitations of the official sources

Both NAO and MOD surveys have methodological limitations. The NAO report relied on a postal questionnaire distributed to all those who had left the military in the 2 years prior to October 2006 (National Audit Office, 2007). A 13% response rate (n= 4,997) was achieved; lower ranks responded less often, as did those who served in the Army. Hence this survey may suffer response bias. As the NAO recognised, their data cannot be extrapolated across the entire Service leaver population.

The MOD internal surveys (Career Transition Partnership, 2009) are based on a random sampling of 20% of those eligible for resettlement, surveyed 6 months after leaving Service. Consequently employment figures yield no information on those not seeking immediate re-employment, and say little about long-term outcomes. The MOD does

survey the employment of those who were ESLs, but this is a limited exercise, informing only where individuals took Job Seeker's Allowance or paid income tax.

Both MOD and NAO surveys provide little or no analysis of demographic factors affecting success of resettlement. The official measures do little to measure successful transition beyond short-term re-employment and, to a lesser extent, housing. Information on even these limited outcomes is limited, omitting other aspects such as employment satisfaction, career progression, or suitability and retention of accommodation. Other socio-economic outcomes are absent from MOD data, such as financial situation, debt, or legal difficulty, all of which could indicate social exclusion (even in the presence of stable employment). Social re-integration is not examined at all – this could include satisfaction with relationships (marital, family, and friends), establishment of a social circle outside Service, and welfare support.

2.3 Independent academic research on transition

Though veterans' issues in general are widely studied, there is a lack of independent research on transition. There have been some small-scale (and now somewhat outdated) interview studies, notably by Jolly. She interviewed 62 UK veterans of all Service arms and rank groups, who had left between 3 and 24 years before study. She found that, irrespective of the practical advice provided during transition, Service leavers still risk entering civilian life "without any clear view of the way ahead", and frequently take up the first employment opportunity they are granted, irrespective of appropriateness. Many ex-Service personnel do not expect to derive satisfaction from a civilian career. During Service, introspection on future civilian life is not encouraged, despite the relatively short average service duration of (particularly) enlisted individuals (Jolly, 1996).

Although the transition of UK Service personnel is rarely studied, there has been some interest in the topic in the US since the late 1960s. Studies found problems with anxiety and depression from the beginning of the pre-discharge process, often manifesting as ill-defined symptoms and complaints (Bellino, 1969). Increased symptom reporting can extend to dependents of the transitioning individual (Giffen and McNeil, 1967). These sources should only be considered of limited value as they consist of expert opinions with small samples. Furthermore, they refer to the US experience prior to conversion to an all-volunteer force in 1973, limiting their relevance to a contemporary UK cohort. As stated in Chapter 1, the lack of similarity between the transition provisions of different nations limits international comparisons; however, a survey of over 200 Canadian veterans found that nearly 53% reported transition being “difficult or fairly difficult” with over 21% reporting it to be “very difficult” (Black, 2007). A Pew survey of nearly 2,000 US veterans found 27% reported difficulty with transition (with that proportion being higher among more recent veterans – 44% of those who served post-Sept. 11th 2001 reported difficulty) (Morin, 2011).

Within the UK, the largest detailed study of resettlement experiences was conducted on a group within the King’s Gulf War cohort identified as being at risk of mental disorder or socio-economic difficulty due to unemployment or symptoms of poor mental health. Of the 80 participants providing qualitative feedback, 44 were dissatisfied with their resettlement, 9 were not offered any, and 8 did not take what was offered (Dandeker et al., 2003). This differs notably from the official MOD data described above, and indicates that those in at-risk groups may obtain less benefit from resettlement. The main source of complaint from the dissatisfied group was that no advice was given on transition to civilian life, and that social aspects were overlooked. This was a small-scale, non-random study, thus offering limited information on the wider population. The response rate was 50%. Subjects in the study were in Service during the 1990s, and had

left by 2001; resettlement provision has changed (with most notable reform happening in 1998), thereby limiting the study's relevance to current policy.

The King's Gulf cohort studies included a nested study comprising 52 in-depth interviews with veterans from all Service arms and ranks. While most participants reflected on their military service positively, feelings of resentment arose for those whose transition was not smooth. Those taking resettlement generally viewed it favourably, but some felt they were prevented from taking full advantage of resettlement due to the demands of their units. Young participants would have appreciated post-discharge mentoring and more training in life skills while serving. Some senior ranks found transition stressful, particularly where skills are not transferrable (Dandeker et al., 2003). This study potentially says more about the general experience of transition than the at-risk study in the previous paragraph, as it covers a wider cross-section of Service leavers. It still has limitations: participants were from a wide swathe of time periods, from World War 2 to post-1991 Gulf War, and not all will have undertaken resettlement.

Social integration can be particularly problematic for those retiring from the military as, compared to civilian retirees, they are likely to have moved geographically many times, and had less opportunities to develop social ties and community roots (Bellino, 1970). The findings in UK cohorts that the social dimension of reintegration is a serious concern (as described above) was mirrored internationally in a 3-year US World War 2 study of 60 former college men discharged from service. The relevance of this study is limited by its age, small size, use of anecdotal evidence, and reliance on expert opinion; further, it consists of an unusual and socially elite sample. Nonetheless, members of this sample show similarities with the modern UK Service leavers described above, reporting several issues that make transition difficult, including loss of confidence in their ability to function as civilians and loss of domestic skills (Cuber, 1945). A later

study of 40 randomly-selected Vietnam veterans found high levels of depression, hostility, and guilt, with problems adjusting to civilian life associated with combat experience and guilt (Strayer and Ellenhorn, 1975). This paper emphasised the difference in political and social outlook between those who had served and their civilian equivalents at that time, and so may not be relevant outside of the politically-charged Vietnam conflict.

One group of special interest are those who leave service via the UK Military Corrective Training Centre (which provides “corrective training” for Service men and women sentenced to periods of detention for offences under the Armed Forces Act 2006). van Staden surveyed 74 of these 6 months after discharge, of which 56% were classed as being “disadvantaged” based on accommodation status, unemployment, debt and mental health. Disadvantage was associated with pre-discharge mental health problems, receiving an administrative discharge, and short sentence (van Staden et al., 2007). This implies that those undergoing a longer sentence have better outcomes – this may be because they have greater access to retraining opportunities. This is a small and atypical sample, and offers little information on the wider population of Service leavers.

2.4 Summary

Although ex-Service personnel in general are widely studied, little academic analysis of transition exists. Studies on the resettlement process are few, and the utility of the process is under-investigated. MOD figures show a high level of re-employment immediately after leaving Service for those who undergo resettlement, and low levels for those who do not (due to leaving Service early). This implies a positive effect of resettlement (at least as regards to employment), but with the possibility that other factors may explain the differences between these groups. Official sources indicate that most ex-Service personnel are satisfied with their transition experiences and resettlement provision, but there is relatively little analysis of the objective utility of

resettlement activities, particularly as regards social aspects – such concerns are not currently addressed in the resettlement package. Academic research reports concerns that such social requirements are not being met, with both at-risk and general samples expressing dissatisfaction with social aspects of resettlement. Certain vulnerable groups (notably ESLs, and possibly medical dischargees) may be at greater risk of unsuccessful transition.

Chapter 3 Aims and Hypotheses

This thesis aims to identify those factors which contribute to a successful or unsuccessful transition from military service to civilian life, and in particular determine the effect of resettlement on the various domains of veteran transition. It will examine transition outcomes in terms of mental health, labour market re-engagement, and social exclusion. The concept of successful transition will be extended beyond the focus of official sources on the labour market to the area of wider social integration.

These considerations give rise to the following aims:

1. Generate a holistic picture of the post-service experience, examining the levels of each aforementioned transition outcome in the ex-Service sample of this thesis and how these outcomes are associated with individual socio-demographic and military factors.
2. Determine how these transition outcomes are related to one another.
3. In all of these analyses, determine how resettlement affects transition outcomes, and the degree to which its effects may explain relationships between other factors.

Overall, this thesis is intended to contribute to the under-investigated field of readjustment of military personnel making the transition to civilian life.

3.1 Hypotheses regarding resettlement

The literature review in Chapter 2 provides a basis for some hypotheses to be generated regarding overall effects of resettlement on socio-economic outcomes. Others can be imputed by the nature of the existing resettlement process. The following hypotheses related to the effect of resettlement are to be examined in this thesis:

- Resettlement will have a positive effect in terms of employment outcomes.

- Those who only serve for short periods perform poorly as regards re-employment.
- Housing outcomes are largely good for those undertaking resettlement – most will own their own homes.
- Social re-integration may be problematic, at least for those at most risk (e.g. ESLs, medical dischargees). Resettlement will not be associated with post-service social integration outcomes.

As described in section 1.3, rather than summarising the available literature regarding each dimension of transition, relevant literature will be included in each chapter detailing that area. Hence hypotheses regarding specific outcomes will be constructed in individual chapters.

Chapter 4 Methods

This chapter outlines the methodology used in this thesis. I first describe the cohort study which provides the data used, and how the ex-Service sample of this thesis was identified within that data. Next I give details on how the independent variables in this thesis were constructed. Following this are a series of sections describing how outcome variables were constructed and how certain independent variables were used in the analysis of these outcomes, grouped by Results chapter. Finally, I present an overview of the techniques and software used in analyses, and outline my contribution.

4.1 Principal data source: the King's Centre for Military Health

Research cohort study

The King's Centre for Military Health Research (KCMHR) Iraq War cohort was originally established to study the mental and physical health of those serving in the first phase of the 2003 Iraq War (Hotopf et al., 2006). The original sample (now termed Phase 1) was drawn from those who had been deployed as part of Operation TELIC 1 (the combat phase in Iraq commencing January 18th 2003; subsequent deployment phases are numbered sequentially), and a control group of those equivalently trained but not deployed to Iraq at that time (henceforth the Era group).

The sample participants were identified by the Defence Analytical Services Agency (DASA), now Defence Statistics, a branch of the UK MOD. A list of military personnel (excluding certain groups due to security reasons, e.g. special forces members) who had deployed on Operation TELIC from January 18th and April 28th 2003 was generated. Another list of those serving in the Armed Forces on March 31st 2003 but not in the deployed group was also generated in order to provide the Era comparison group.

From these lists a stratified random sample was produced. Stratification was by Service arm (Naval Services (Royal Navy including Royal Marines), Army, and RAF) and

enlistment type (full-time regular or part-time reserve). Randomisation was performed by allocating a random number to each member of the list, sorting the list in numerical order according to this random number, and then selecting from this ordered list sequentially up to the desired sample size. The TELIC sample comprised around 10% of the fighting force who deployed during TELIC 1. The Era cohort was larger than the TELIC cohort to take into account of the 10% of regular military personnel who are medically downgraded at any one time (which indicates that an individual may not be fit to deploy), and also to allow for the fact that some within the Era cohort would deploy to subsequent TELIC operations. Additionally, reservists were oversampled 2:1, as particular concerns had been raised about the consequences of deployment for reservists, and they make a relatively small proportion of those who deploy (note that reservists are excluded from the sample group of this thesis – see below).

The total sample size was 17,698. Of these, 23 died before they could be sent questionnaires, 135 reservists were excluded as they were non-deployable, and 41 did not have address data. The final number of individuals contacted was 17,499. The study was approved by the MOD (Navy) personnel research ethics committee and the King's College Hospital local research ethics committee.

The phase 1 survey was via a 28-page questionnaire (which had been piloted), which *inter alia* clarified that the researchers were acting independently from the MOD. The questionnaire comprised the following sections:

1. Demographics
2. Military service information
3. Pre-deployment experiences (including expectations)
4. Deployment experiences (including duties and potentially traumatic experiences)
5. Post-deployment experiences
6. Current health (at time of filling the questionnaire)
7. Background information (including medical history and adversity in early life)

An example form of the questionnaire can be found in Appendix 1. Era cohort participants were asked to complete sections 3-5 if they had served in a major deployment since 2000 (including Afghanistan, Bosnia, Kosovo, Macedonia, Sierra Leone, Southern Turkey, Kuwait, Saif Sareea (a 2002 military exercise in Oman) and Iraq (Operation TELIC 2 and beyond).

Most participants received questionnaires by post, though where many serving personnel were co-located at the same military base, that group were assigned a visit from the research team (performed simultaneously with the mail-out). Multiple strategies were used to trace participants, including via staff administrative officers and via emails with senior personnel requesting their assistance. For those who had left the Services by the time of data collection, addresses were checked against the electoral register, telephone numbers were sought from directory enquiries, and the National Strategic Tracing Service was contacted to trace individuals with out-of-date address information. Data were collected between June 2004 – March 2006, and 10,272 completed the questionnaire (a 58.7% response rate), with another 160 (0.9%) refusing to participate. Lack of response was associated with younger age, being male, being in the Royal Navy/RAF, not being a commissioned officer, and being a reservist (Hotopf et al., 2006).

Subsequently, a second phase was executed which both followed up this original group and added two new samples: those who had served in Afghanistan (as part of Operation HERRICK) and a “replenishment” group of those who had joined the military since April 2003. Of the 10,272 who responded at phase 1, 914 were not eligible for follow-up as either they had not given consent to be contacted again, could not be contacted due to insufficient address information, or had died. 37 participants who returned their phase 1 questionnaire too late to be included were nonetheless included in follow-up at phase 2. In total, 9395 of the original cohort were included in data collection at phase 2 (7,884 regulars and 1,511 reservists).

The new HERRICK cohort was a random sample of personnel deployed to Afghanistan, between April 2006-April 2007 (the period spanning Operations HERRICK 4 and 5). Around 10% of the regulars, and 90% of the reservists, deployed on these operations were sampled (1,491 and 334 individuals respectively). 36 were found to be ineligible, and the final HERRICK sample contained 1,455 regulars and 334 reservists.

The replenishment sample included those who joined the military after phase 1 recruitment (between April 2003 and April 2007), and thus would have had the opportunity to deploy during the study period. Around 10% of eligible regulars and 30% of eligible reservists were contacted; 810 were later found to be ineligible (e.g. because they had been incorrectly sampled or had died), leaving a final replenishment sample of 5,127 regulars and 1,500 reservists.

As in phase 1, new study participants (i.e. the HERRICK and replenishment groups) were identified by DASA. In total, there were 17,812 potential study participants at phase 2; this sample was similar in characteristics to the overall composition of the UK military at April 2007, except that the sample included more Army personnel (as the

sample was representative of those likely to be deployed) (Fear et al., 2010). Again, data collection was by questionnaire, which contained 5 sections:

1. Demographics
2. Section on ex-Service experiences for Service leavers
3. Experiences during most recent TELIC operation (if applicable)
4. Experiences during most recent HERRICK operation (if applicable)
5. Current health and lifestyle

Additionally, those who were being surveyed for the first time (the HERRICK and replenishment cohorts) were asked questions about family background previously completed at phase 1 for the follow-up sample. An example form of the questionnaire can be found in Appendix 2. Data were collected between November 2007- September 2009, with similar methods of sampling and tracing as before. Most (77%) of those who responded did so by the end of 2008. Overall phase 2 achieved a 56% response rate (n = 9,990) (Fear et al., 2010). Non-response was associated with being younger, being male, not being a commissioned officer, and being a reservist.

4.2 Identification of eligible ex-Service personnel in the cohort study

The UK has officially defined veterans since 2001 as those who have served at least one day (Rice, 2009). This thesis uses the terms “veteran” and “ex-Service” interchangeably. This thesis only includes those from the cohort study who had left service (except where stated otherwise), and hence experienced transition from military to civilian life; for this reason, only regular (i.e. full-time) members of the Armed Forces were included (as reservists are still embedded in their civilian lives while serving and will not have been exposed to full-time military culture in the same way, and not need to make the same adjustments). Additionally, only regulars are eligible for the resettlement process.

Consequently, I first excluded all those who had not left the military, as well as those who had since been recalled⁵. This left 2237 individuals. This number comprised those who were regulars up to the time they left the Services, as well as those who were regulars at one time and became reservists, and those who had only ever been reservists. To exclude this last group, I first considered the means by which they entered the cohort study; i.e., whether they were sampled as a regular or reservist. I also considered whether they had indicated in their questionnaire that length of service as a regular/FTRS⁶ was not applicable to them. Responses given to an individual's length of service as a regular, as well as whether they endorsed a separate field indicating that length of service as a regular did not apply to them, are shown in Table 4-1.

⁵ The State retains the capability to recall Service leavers into regular service for some years after leaving (Ministry of Defence. (2007) JSP 516: The Reserve Forces Act 1996. 3 ed.)

⁶ "Full-Time Reserve Service": although these individuals are technically reserves, they are engaged in full-time military jobs, and hence treated as regulars in this thesis and the underlying cohort study.

Table 4-1 Responses to length of service as a regular in questionnaire

Questionnaire years of service as regular or FTRS	Selected into initial sampling as a regular (n = 1,740)	Selected into initial sampling as a reserve (n = 497)
1+ (no other contradictory response)	1589	192
0 (no other contradictory response)	0	9
No response for length of service, but has not endorsed that length of service as a regular field does not apply	38 (*)	227
No response or zero length of service, indicated length of service as a regular does not apply	106 (**)	68
Length of service given, but nonetheless indicated that length of service as a regular not applicable	7 (†)	1

*/**/†: see text below

1596 of those sampled as regulars reported at least 1 year of service. These were accepted as ex-regulars, despite the fact that seven had also ticked that length of service as a regular did not apply to them (†); these are assumed to have mistakenly ticked that box as they had left the Services, and may have felt that this was the reason that the question no longer applied to them.

Those 69 who had been sampled as reservists, and indicated that length of service as a regular or FTRS was not applicable to them (indicated by bold borders in Table 4-1), were dropped on the assumption that they were reservists who had never served as regulars. In all but one case, these individuals did not enter any date of leaving or length of service as a regular. The exception did state a year of leaving (which was 2008), and

stated 2 years service as a regular, but also 2 years service as a reservist; consequently it was judged safe to assume that the claimed 2 years of regular service were a mistake.

Of the remaining 572 individuals, self-reported dates of leaving regular service were investigated. This identified 180 sampled as a reserve, not indicating any period of time as a regular, and not filling either a month or year for date of leaving the regular Armed Forces. These 180 were dropped.

Those sampled as regulars and not giving a length of service (or stating zero years of service), but stating a valid year of leaving service as a regular, were included in the sample. This comprised 138 individuals, of which 36 had not entered a length of service as a regular (from cell *), and 102 had indicated that this did not apply to them (from cell **); in both cases it was assumed that because they had left service they may have thought that this question was not of relevance to them. This takes account of almost all of those sampled as regulars, and left a small ambiguous group (Table 4-2).

Table 4-2 Length of service as a regular, after initial exclusions and inclusions

Indicated years of service as regular or FTRS	Selected into initial sampling as a regular	Selected into initial sampling as a reserve
1+ (no other contradictory response), valid year of leaving regular service	-	166
1+ (no other contradictory response), no valid year of leaving regular service	-	26
0 (no other contradictory response)	-	6
No data or leaving date, but has not endorsed that length of service as a regular field does not apply	2	50
No data or leaving date, indicated length of service as a regular does not apply	4	-

Of this ambiguous remainder, it was decided that:

- Those sampled as regulars were treated as regulars, despite lack of response as regards length of service or date of leaving (n = 6)
- Those sampled as reservists, but claiming at least 1 year of service as a regular/FTRS, and having a valid year of leaving regular service, will be

incorporated into the sample (n = 166). This represents the entire population of ex-reservists who were also ex-regulars accepted into the sample cohort.

- All other reservists (including those with no data for length of service as a regular, irrespective whether they claim a date of leaving as a regular, and also those claiming at least 1 year as a regular but having no valid year of leaving) are dropped (n = 82).

The final issue to consider is that of equivalency of resettlement experiences, as the nature of resettlement provision has changed over the years. According to the Resettlement division of the MOD, the last major change was in October 1998, at which point the three Service arms ceased operating their individual programmes and resettlement became a centralised, tri-service offering. Consequently, all those who did not indicate leaving regular service after October 1998 were dropped. This excluded 151 individuals; 100 who left regular service before October 1998, and 51 who failed to give a valid date of leaving at all. The exclusion and inclusion criteria used to produce the sample used in this thesis are summarised in Figure 4-1.

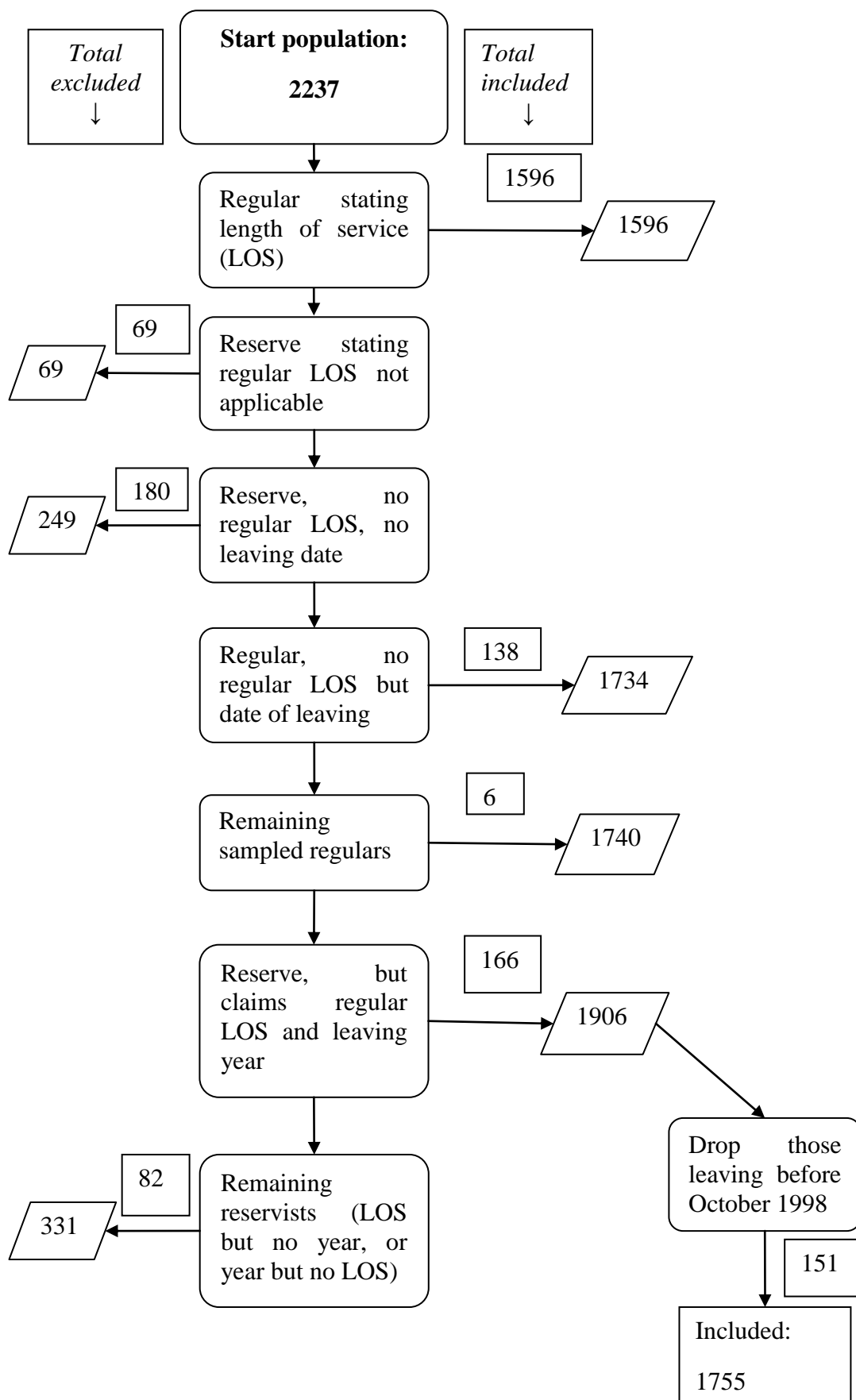


Figure 4-1 Exclusions and inclusions to form sample

4.3 Official resettlement records

I contacted the branches of the Armed Forces to request official resettlement records, in order to make a comparison and obtain further information. Attempts to contact Naval records, through a variety of means, were fruitless. The Army Personnel Centre were helpful, but an initial test sample (of 18 records) resulted in only 3 records being found; thus it was decided that this route involved disproportionate effort, and would probably result in an unrepresentative sample. However, requests to the RAF were more successful. Of 74 records requested from the RAF, 45 were provided (with some identifying information redacted where not relevant), a return rate of 60.8%.

4.4 Independent variables

A number of socio-demographic and military variables are considered in this thesis as independent variables which may explain the outcomes of transition. These variables were derived from questionnaire responses, except in some cases, where data used to form the initial sample was used (“sampling data”).

4.4.1 Socio-demographic variables

Sex

Sex was defined using the individual’s sampling data.

Pre-enlistment vulnerability (PEV)

Personnel were asked 16 questions about their childhood, intended to elicit any pre-enlistment vulnerabilities. These were true-or-false questions based around the stem “When I was growing up...”, and included both anti-social behaviours (e.g. “I often used to play truant from school”) and supportive circumstances (e.g. “I felt valued by my family”) (Iversen et al., 2007a). Each endorsement of an anti-social behaviour or negative circumstance was scored 1. Positive circumstances were negatively-coded, so

that failure to endorse such circumstance was scored 1. This produced a possible score range of 0-16 (Table 4-3).

Table 4-3 Coding of responses to pre-enlistment vulnerability questions

<i>Statement</i>	<i>Coding if True</i>	<i>Coding if False</i>
I came from a close family	0	1
I used to get shouted at a lot at home	1	0
I often used to play truant from school	1	0
I felt valued by my family	0	1
I regularly used to see or hear physical fighting or verbal abuse between my parents	1	0
In my family there was at least one member I could talk to about things that were important to me	0	1
I used to be hit/hurt by a parent or caregiver regularly	1	0
One (or more) of my parents had problems with alcohol or drugs	1	0
My family used to do things together	0	1
I spent some time (any time) in Local Authority Care/Social Services Care	1	0
I had one special teacher/youth worker/ family friend who looked out for me	0	1
I often used to get into physical fights at school	1	0
There was at least one thing/activity that I did that made me feel special or proud	0	1
I was suspended/expelled from school (ever)	1	0
I had problems with reading or writing at school and needed extra help	1	0
I did things that should have got me (or did get me) into trouble with the police	1	0

As this variable produces a range of values between 0 and 16, it was primarily treated as a continuous variable in the following analyses of this thesis. In certain circumstances it was desirable for PEV to be utilised as a categorical variable (i.e. where analysis was performed using methods which cannot be performed with continuous measures, such as tests of medians); in such cases, four groups were generated: those scoring 0-1, those scoring 2-3, those scoring 4-5, and those scoring 6 or more (Iversen et al., 2007a).

4.4.2 Military variables

Service

A variable for Service arm was generated from sampling data. There were relatively few Royal Marines in the veteran sample ($n = 52$); it would have been difficult to perform meaningful analysis with a sample of this size, so it was decided to combine this sample with another Service for analytical purposes.

The Royal Marines are traditionally an elite force within the Royal Navy. However, they differ from other Naval personnel in many ways. Whereas the activities of most Naval personnel directly or indirectly involve marine operations, Royal Marines have a unique role in the Armed Forces: they are a commando force specialising in amphibious, mountain and cold weather warfare. Marines differ from other Services in their perception of the media (Pinder et al., 2009), mental health (Sundin et al., 2010) and deployment pattern (Rona et al., 2007). Marines are different from Naval personnel in the study sample both in terms of socio-demographic factors and military career (Table 4-4).

Table 4-4 Comparison of socio-demographic and military factors, Royal Marines vs other Royal Navy

<i>Factor</i>	<i>No. for Navy⁷ (%)</i>	<i>No. for Marines⁸ (%)</i>	<i>Odds Ratios (Marines vs Navy)⁹</i>
Sex			
Male	226 (84.8)	51 (98.2)	1
Female	43 (15.2)	1 (1.8)	0.10 (0.01-0.76)*
Education (see 4.4.4 below)			
O-levels or less	165 (61.7)	31 (59.7)	1
A-levels or more	90 (38.4)	21 (40.3)	1.09 (0.58-2.04)
Rank (see below)			
Officer	60 (18.0)	8 (11.7)	1.02 (0.42-2.48)
NCO	151 (54.6)	19 (34.7)	1
Other Rank	58 (27.5)	25 (53.6)	3.07 (1.55-6.07)**
Role (see below)			
Combat	3 (1.5)	21 (53.5)	109.86 (27.47-439.30)***
Combat Support	19 (10.7)	7 (18.0)	5.19 (1.76-15.27)**
Combat Services Support	164 (87.8)	12 (28.5)	1
Length of Service (see below)			
<4	6 (2.6)	2 (4.1)	1.14 (0.20-6.52)
4-<6	45 (23.7)	17 (42.5)	1.32 (0.56-3.08)
6->14	44 (19.3)	13 (26.3)	1
14-<23	55 (21.1)	8 (14.1)	0.49 (0.19-1.31)
23+	91 (33.2)	8 (13.1)	0.29 (0.11-0.76)*
Method of leaving (see below)			
Planned	213 (84.0)	41 (85.9)	1
Unplanned	38 (16.1)	8 (14.1)	0.86 (0.37-2.00)

* p < 0.05 ** p < 0.01 *** p < 0.001

⁷ N = 269. Response weighted.

⁸ N = 52. Response weighted.

⁹ Odds ratio for ex-Marines, where baseline is being ex-Navy.

As Table 4-4 demonstrates, Marines are generally of lower rank (despite being equivalent to Naval personnel in terms of education), and serve for less time than those in the Navy (despite being similar in method of leaving). While small numbers make it difficult to form reliable conclusions, it is clear that Marines differ strongly from other Naval personnel with regards to role. Consequently Royal Marines will be treated separately from Royal Navy personnel in the remainder of this thesis. In terms of military culture and roles performed, Marines are often considered more similar to the Army; a socio-demographic and military comparison between Army and Royal Marines is shown in Table 4-5.

Table 4-5 Comparison of socio-demographic and military factors, Royal Marines vs Army.

Factor	No. for Army¹⁰ (n = 1,013)	No. for Marines¹¹ (n = 52)	Odds Ratios (Marines vs Army)¹²
Sex			
Male	921 (91.9)	51 (98.2)	1
Female	92 (8.2)	1 (1.8)	0.21 (0.03-1.51)
Education (see 4.4.4 below)			
O-levels or less	507 (49.9)	31 (59.7)	1
A-levels or more	452 (50.1)	21 (40.3)	0.67 (0.38-1.21)
Rank (see below)			
Officer	173 (13.4)	8 (11.7)	1.56 (0.67-3.64)
NCO	648 (62.2)	19 (34.7)	1
Other Rank	192 (24.4)	25 (53.6)	3.93 (2.01-7.37)***
Role (see below)			
Combat	298 (36.5)	21 (53.5)	2.67 (1.28-5.59)**
Combat Support	100 (11.7)	7 (18.0)	2.80 (1.05-7.46)*
Combat Services Support	470 (51.9)	12 (28.5)	1
Length of Service (see below)			
<4	29 (3.8)	2 (4.1)	1.11 (0.23-5.31)
4-<6	231 (29.7)	17 (42.5)	1.46 (0.69-3.10)
6->14	252 (26.8)	13 (26.3)	1
14-<23	270 (24.7)	8 (14.1)	0.58 (0.24-1.44)
23+	175 (15.0)	8 (13.1)	0.89 (0.36-2.20)
Method of leaving (see below)			
Planned	880 (90.1)	41 (85.9)	1
Unplanned	90 (9.9)	8 (14.1)	1.49 (0.67-3.31)

* p < 0.05 ** p < 0.01 *** p < 0.001

¹⁰ N = 1,013. Response weighted.

¹¹ N = 52. Response weighted.

¹² Odds ratio for ex-Marines, where baseline is being ex-Army.

While there are still significant differences between ex-Army personnel and ex-Royal Marines, they are more similar than with ex-Navy personnel in important aspects (particularly with regards role and length of service, though role is still significantly different). Consequently, Royal Marines will be combined with the Army sample in this thesis.

Rank

Rank was coded from questionnaire responses. The questionnaire allowed respondents to endorse being either a private-equivalent “other rank”; a junior non-commissioned officer (NCO); a senior NCO; a junior commissioned officer (CO); or a senior CO. These categories were reduced to other ranks, NCOs, and officers. There was no missing data for rank.

Length of service/Age

Length of service was taken from questionnaire responses asking for length of service as a regular (in years). Most personnel enter Service around 18 years of age, up to the early twenties for those who acquire a degree before service (usually officers). Consequently, their age (at questionnaire completion) is generally equal to their length of Service plus their 18-22 years of age at time of joining. To avoid redundant and repetitious presentation of data, most of the tables and figures in this thesis will use length of Service and time since leaving, rather than age at questionnaire completion.

Role

Data used for role was taken from questionnaire responses to the query “What is your primary role in your parent unit?”. This question allowed 19 possible responses, which were reduced to three for the purposes of this thesis: Combat (e.g. front-line infantry and other direct combat roles), combat support (i.e. one step removed from the front-

line by comparison with combat troops, but still potentially involved in battlefield situations) and combat services support (e.g. infrastructure, training, logistics, and other “back office” roles). The roles available in the questionnaires, and their categorisations, are shown in Table 4-6.

Table 4-6 Categorisation of role responses

Questionnaire response	Categorisation
Combat	Combat
EOD (bomb disposal)	Combat support
Air crew	
Communications	
Medical/welfare	Combat services support
Logistics	
Engineering	
Intelligence	
Military police	
Flight Operations	
Administrative	
Driver	
Training	

Deployment to HERRICK/TELIC

Questionnaire responses were used to generate a variable for whether the individual had deployed to Operation HERRICK and/or Operation TELIC.

Method of leaving

To determine method of leaving, respondents were asked to endorse one of the following responses to the question “How did you leave?”:

- “End of service term or run out date”
- “Premature Voluntary Release/signed off”
- “Medical discharge”
- “Administrative discharge”
- “Temperamental unsuitability/services no longer required”
- “Disciplinary discharge”
- “Voluntary redundancy”
- “Compulsory redundancy”
- “Other (please specify)”.

A binary variable was then generated – “planned leaver” or “unplanned leaver” (Table 4-7) (note that “planned” is used rather than “voluntary” as it is not possible to distinguish those who left in a planned way but would have preferred to stay). “Other” responses were excluded (n=10). 82 respondents who did not answer the question as to how they left service were excluded from analysis regarding method of and reasons for leaving.

Table 4-7 Possible military exits

<i>Circumstances of exit</i>	<i>Planned/ unplanned</i>	<i>Voluntary/ involuntary</i>	<i>Initiative lies with...</i>
Completes current service term; does not wish to apply for further service	Planned	Voluntary	Leaver
Completes current service term; not offered possibility of continuing service	Planned	Either (unknown)	Service
Applies to leave voluntarily before completing current term (includes Premature Voluntary Release/signed off, voluntary redundancy)	Planned	Voluntary	Leaver
Discharged involuntarily (dishonourable discharge, temperamental unsuitability/services no longer required, compulsory redundancy, medical discharge, administrative discharge etc.)	Unplanned	Involuntary	Service

Reasons for leaving

As regards reasons for leaving, respondents could endorse any number of responses from the following:

- “Better employment prospects in civilian life”
- “Impact of Service life on family”
- “Work not exciting or challenging enough”

- “Dissatisfaction with pay”
- “Lack of promotion prospects”
- “Inability to plan life outside of work”
- “Because of my experiences on deployment”
- “Pressure from family”
- “Too many deployments”
- “Didn’t want to be away from home”
- “My service was terminated”
- “Health problems”
- “Pregnancy”
- “Other (please specify)”

From these responses, categories of reasons for leaving were generated (Table 4-8).

This variable is only used in Chapter 7, particularly as it allows multiple responses and hence is complex to apply as an independent variable to logistic regressions.

Table 4-8 Categorisation of reasons for leaving

<i>Reason for leaving category</i>	<i>Contributing responses</i>
Better prospects in civilian life	Better prospects in civilian life
Job dissatisfaction	Work not exciting or challenging enough, dissatisfaction with pay, lack of promotion prospects
Work interference with family (WIF)	Impact of Service life on family, inability to plan life outside of work
Family interference with work (FIW)	Pressure from family, didn't want to be away from home
Deployment factors	Because of my experiences on deployment, too many deployments
<i>Not used, as indicative of involuntary leaving</i>	My service was terminated, health problems, pregnancy

4.4.3 Resettlement variables

According to Armed Forces policy, entitlement to resettlement is determined by length of service, with exceptions applying for those with medical or dishonourable discharges (see Chapter 1.2). Those respondents who had left Service were asked the number of weeks of resettlement to which they were entitled, if any. Respondents were also asked how many weeks of resettlement they actually undertook, whether they received vocational training as part of their resettlement, and whether such training is being used in their current employment. The questionnaire further asked those who did not receive resettlement why they did not take advantage of the provision.

In practice, these questions were badly answered (32% of the sample did not indicate how much resettlement they were entitled to, and 13% did not indicate how much they took). This raises the possibility that some respondents are having trouble recalling the circumstances surrounding their resettlement, or simply never knew of their entitlement to resettlement; for example, of 109 respondents who left with a medical discharge (and hence were entitled to maximum resettlement), 46 did not give an answer as to their entitlement, and 5 indicated that they had no entitlement to resettlement.

Given these difficulties, a variable for entitlement to resettlement was constructed in two steps:

1. Generate a projection for the amount of resettlement to which the individual was entitled, based on their length of service and method of discharge
2. Generate a binary variable for whether or not the individual was entitled to any resettlement, based on both their responses and the projection from step (1) (Figure 4-2). Due to concerns regarding the recall of respondents, in some cases the projections were used in preference to actual responses.

This procedure resulted in 44 individuals for whom it was not possible to determine whether they had any entitlement to resettlement; these are excluded from further analysis.

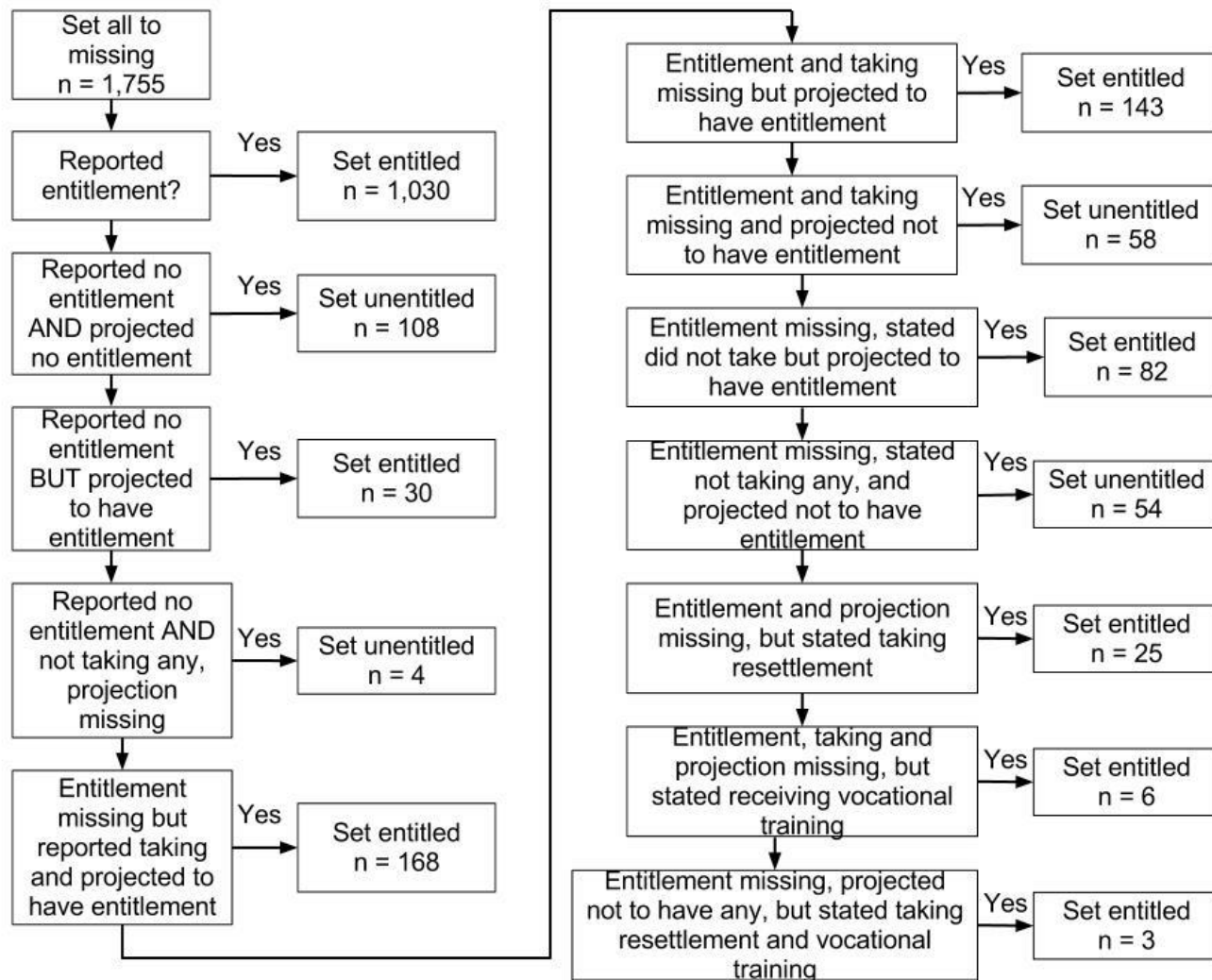


Figure 4-2 Assignment of entitlement to resettlement

Following this a binary variable was constructed for whether the individual undertook resettlement (Figure 4-3).

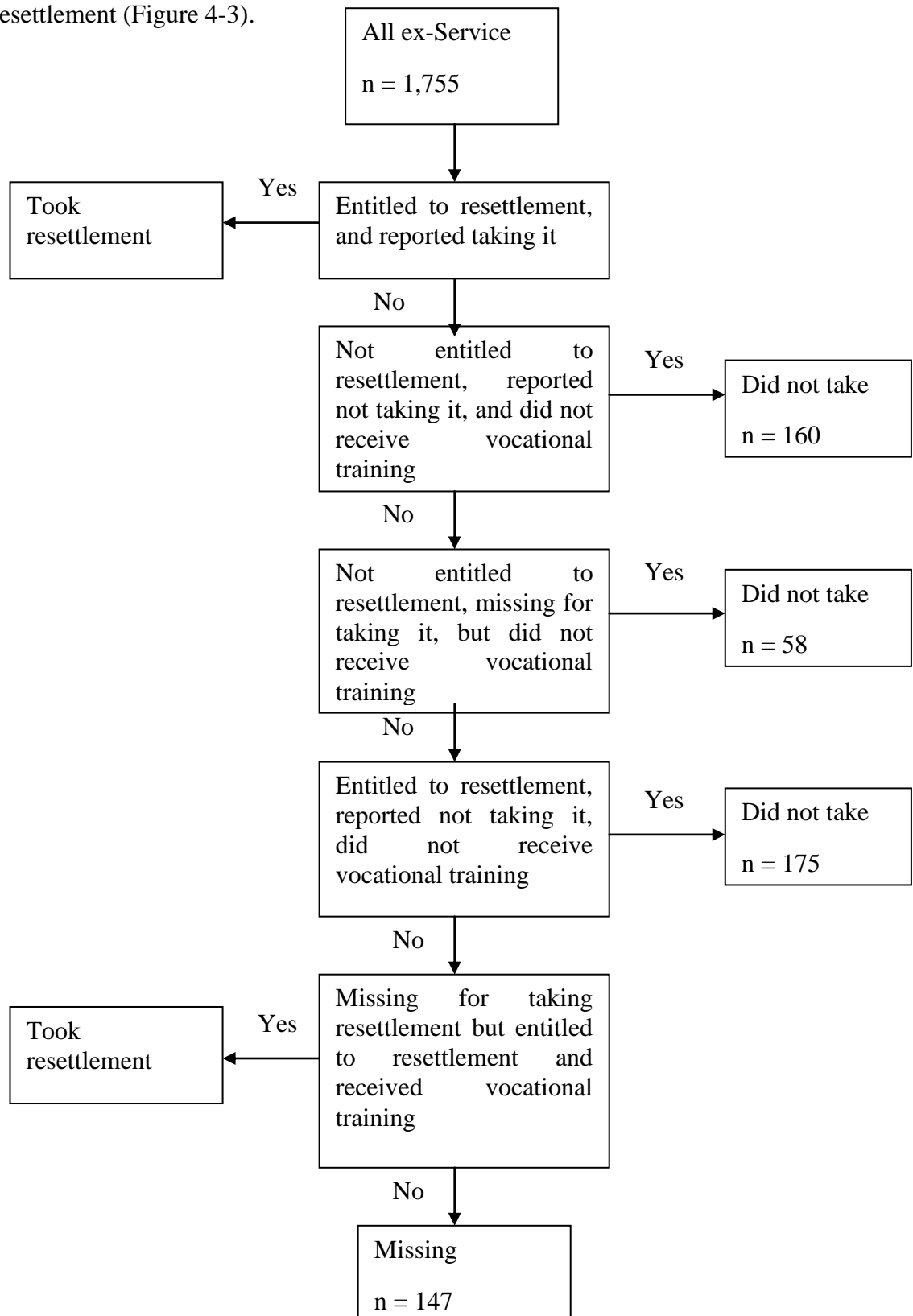


Figure 4-3 Assignment of taking resettlement variable

4.4.4 Post-Service/Current variables

Certain variables reflect factors which could arise before, during, or after service.

Education

The questionnaire included several responses for educational attainment level at time of questionnaire filling. These were reduced to two categories (Table 4-9).

Table 4-9 Categorisation of educational attainment responses

Questionnaire response	Categorisation
Left school with no qualifications	O-levels or less
O-levels/GCSEs/NVQs level 1-2/equivalent	
A-levels/HNDs/NVQs level 3/Highers/equivalent	A-levels or higher
Degree/NVQs level 4-5	
Postgraduate qualifications	

Relationship status

Relationship status was taken from questionnaire responses and was categorised as those in a relationship at time of questionnaire filling, and those who were not (Table 4-10).

Table 4-10 Categorisation of relationship status responses

Questionnaire response	Categorisation
Married	In a relationship
Living with partner	
In long-term relationship	
Single and not in long term relationship	Single
Separated	
Divorced	
Widowed	

Having children

The questionnaire included a number of fields asking for the ages of any children of whom the respondent is a parent. The respondent was coded as having children if they were the parent of any child aged below 18 years at the time of questionnaire filling (irrespective whether the child was living with the respondent).

Time after leaving

The time between the veteran leaving the Services and response was calculated using the time between the date of leaving and date of questionnaire completion.

4.5 Geographic data

This thesis includes analysis of the geographic locations of veterans, and characteristics of the areas in which they are located at time of questionnaire filling. Postcode data at questionnaire filling was used. Each postcode was then correlated with a Lower-layer Super Output Area (LSOA) (Office for National Statistics, 2003b), the unit areas used in official sources to generate indices of deprivation. There are 32,482 LSOAs in England, which were created based on information from the 2001 census (Office for

National Statistics, 2003a), and socio-demographic statistics for LSOAs were released in 2004 for England and Wales. Each LSOA corresponds to between 400 and 1,200 households (i.e. between 1,000 and 3,000 individuals, mean population 1,519).

Each LSOA assigned a national rank for its level of deprivation in several indices, calculated from the features of the area and its residents. The most deprived LSOA in any given index is assigned rank 1. Ranking is separate by country within the UK, and thus indices cannot be compared across countries. It should be borne in mind that areas with a high level of deprivation can still have many individuals who are not deprived, and conversely less-deprived areas may contain deprived individuals (Smith, 1999).

4.5.1 Deprivation indices

This thesis considers several official indices of deprivation (Table 4-11) (Noble et al., 2008).

Table 4-11 Deprivation domains and the indicators used to generate their indices

Deprivation domain	Indicators used in generation
Income	<ul style="list-style-type: none"> • Adults and children in Income Support households • Adults and children in Income-Based Job Seekers Allowance households • Adults and children in Pension Credit (Guarantee) households • Adults and children in those Working Tax Credit households where there are children in receipt of Child Tax Credit whose income is below 60% of median before housing costs • Adults and children in Child Tax Credit households whose income is below 60% of median before housing costs • Asylum seekers receiving subsistence and/or accommodation support from the National Asylum Support Service
Employment	<ul style="list-style-type: none"> • Recipients of Jobseekers Allowance (JSA)* • Participants in the New Deal who are not in receipt of JSA • Participants in the New Deal for Lone Parents • Recipients of Incapacity Benefit* • Recipients of Severe Disablement Allowance*
Health deprivation and disability	<ul style="list-style-type: none"> • Years of Potential Life Lost • Comparative Illness and Disability Ratio • Measures of acute morbidity (emergency admission to hospital) derived from Hospital Episode Statistics • Proportion of adults under 60 years of age suffering from mood or anxiety disorders based on prescribing, suicide mortality rate, hospital episode and health benefits data.

Deprivation domain	Indicators used in generation
Barriers to housing and services	<ul style="list-style-type: none"> • Household overcrowding • Homelessness (district-level rate of acceptances under homelessness provisions) • Housing affordability (proportion of households under 35 whose income is insufficient for them to enter owner occupation) • Road distance to a GP surgery • Road distance to a general store/supermarket • Road distance to a primary school • Road distance to a post office
Crime	<ul style="list-style-type: none"> • Rates per 1000 populations of burglary, theft, criminal damage and violence
Living environment	<ul style="list-style-type: none"> • Social and private housing in poor condition • Houses without central heating • Air quality • Road traffic accidents involving injury to pedestrians and cyclists

* For men aged 18-64 and women aged 18-59

4.5.2 Analysis of deprivation indices

As each index of deprivation represents a rank, indices were compared using a non-parametric test of medians, comparing the numbers within any given category below and above the median rank for each index. This provides a probability of whether the observed differences between groups were statistically significant.

4.5.3 Urban/rural location

From the respondents' postcode data, it was possible to determine whether the area in which they lived was in a rural or urban location. Urban/rural indicators used were those developed by the Office for National Statistics (Barham and Begum, 2006); indicators for England and Wales were defined as in Table 4-12, and a binary urban/rural variable was generated.

Table 4-12 Definitions of Urban/Rural Indicator for England and Wales

<i>Indicator</i>	<i>Definition</i>	<i>Binary value</i>
Urban (sparse)	Output Area (OA) falls within urban settlements with a population of 10,000 or more; wider surrounding area is sparsely populated (based on the number of households in surrounding hectares, up to a distance of 30km).	Urban
Urban (less sparse)	OA falls within urban settlements with a population of 10,000 or more; wider surrounding area is less sparsely populated.	
Town and Fringe (sparse)	OA falls within the Small Town and Fringe areas category, wider surrounding area is sparsely populated.	Rural
Town and Fringe (less sparse)	OA falls within the Small Town and Fringe areas category, wider surrounding area is less sparsely populated.	
Village (sparse)	OA falls within the Village category, wider surrounding area is sparsely populated.	
Village (less sparse)	OA falls within the Village category, wider surrounding area is less sparsely populated.	
Hamlet and Isolated Dwelling (sparse)	OA falls within the Hamlet and Isolated Dwelling category, wider surrounding area is sparsely populated.	
Hamlet and Isolated Dwelling (less sparse)	OA falls within the Hamlet and Isolated Dwelling category, wider surrounding area is less sparsely populated.	

Other nations of the UK use their own indicators which are not comparable with those of England and Wales, so are excluded in this thesis when considering urban/rural location.

4.6 Employment-related variables

In this section, I will discuss the basis for the analysis presented in the Employment chapter (Chapter 10). I will outline which relevant variables were available in the

questionnaire, how new variables were generated, and how independent variables are to be utilised in the analysis of employment outcomes.

4.6.1 Questionnaire employment-related fields

The questionnaire contains the following questions pertaining to employment (possible responses in square brackets):

- Q2.8: Are you currently employed? [Yes/No]
- Q2.9: If yes, how long have you been in your current job? [years and months]
- Q2.10: Does your current job use the vocational training you received during your resettlement? [Yes/No/Not Applicable]
- Q2.11: How many jobs have you had since you left the military? [number]
- Q2.12: If you are currently unemployed, what is the reason? [seeking work/ill health/student/other – please write]
- Q2.13: What was your longest period of job seeking since leaving Service? [months]

The number of jobs a person had had was considered to be more useful in determining how settled a person was in employment than how long they had been in their current job, and so the latter is not used. Reason for current unemployment is not used directly in this thesis; there are many unrelated response categories, some with a small number of respondents, which would make meaningful analysis difficult. Many responses were write-in answers, further increasing the spread of data. However, some specific responses were used in the generation of certain other variables after re-categorisation of write-in answers (e.g. to produce the “EER” variable described below).

4.6.2 Current employment status

The question “Are you currently employed” was generally well-answered by the 1,711 respondents for whom entitlement has been deduced. Further examination of the data

allowed one respondent to be re-categorised. Respondents were also checked for consistency between responses as to whether they were currently employed and other employment-related responses. With only 3 records missing for employment it was judged that no analysis of missing data was required. The resulting final categorisation is shown in Table 4-13.

Table 4-13 Current employment responses (after re-categorisation)

Response	Number (%)
Yes	1450 (84.8)
No	258 (15.1)
Missing	3 (0.2)

4.6.3 Employment, Education or Retirement (EER)

Additionally, to investigate wider positive labour market outcomes, a variable was generated for those currently in employment, education or retirement (“EER”). This variable comprises those who are currently employed, together with those who were retired or in education (determined from the question: “If you are currently unemployed, what is the reason?”).

4.6.4 Stratification by sex

For current employment and the EER variable, males and females were analysed separately. This is because the presence of children was expected to affect females differently from males (see Chapter 10.5.2); testing this hypothesis showed that there was a significant interaction between sex and children for current employment (calculating interaction between being female and not having children when calculating odds ratios of employment gives a significant interaction term, $p < 0.001$).

4.6.5 Number of jobs since leaving service: “occupational transience”

The distribution of number of jobs an individual had undertaken since leaving the military is show in Figure 4-4.

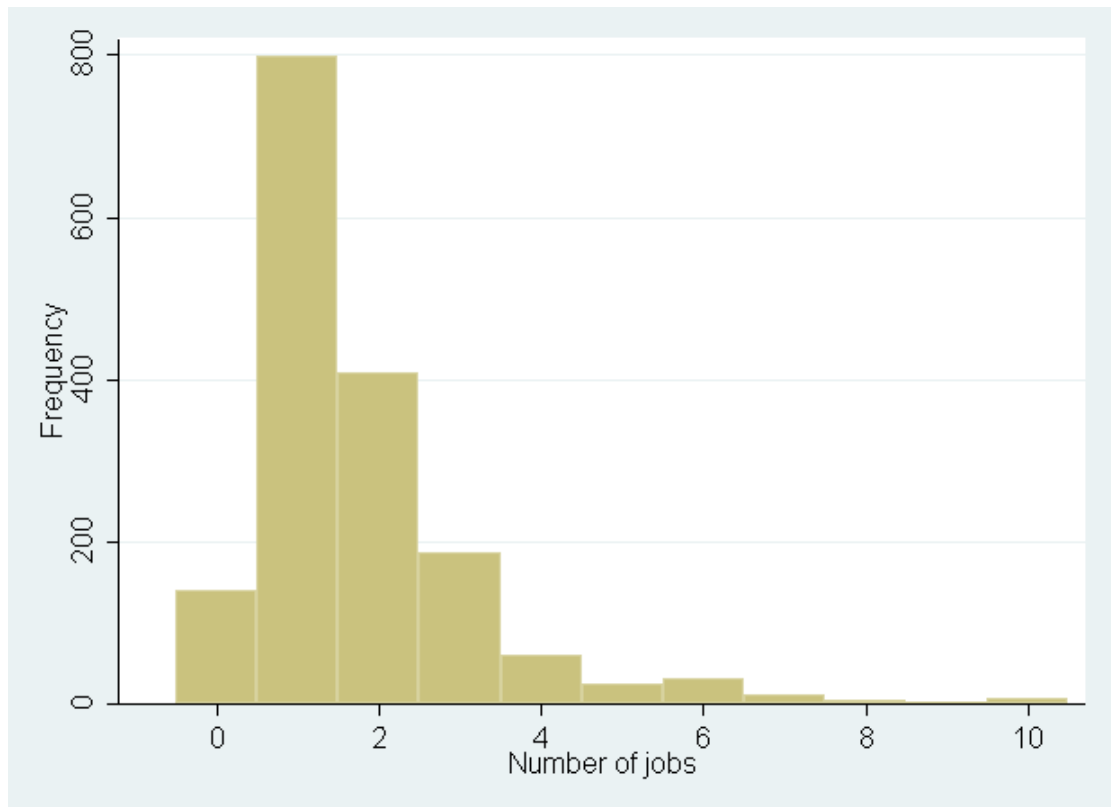


Figure 4-4 Number of jobs held since leaving service

Two individuals reported more than 11 jobs. Both were young, and were coded as missing for the analysis. 24 of the other 28 missing data for this question gave other responses which could explain why this question was not answered. Taking this into account, there are few genuinely missing responses; no analysis of missing data is required for this variable.

From these data, a variable for “occupational transience” was generated. This was calculated as the number of jobs the respondent had reported, minus one, to create a total number of times the individual had changed jobs. Those who had not had a job since leaving service were excluded from the analysis. (Note that it is also possible that respondents held more than one job simultaneously, but there is no way to determine

this from the data available.) Negative binomial regression was used to analyse this outcome variable (using time after leaving as the “exposure variable”¹³).

4.6.6 Longest period of job-seeking

The distribution of longest period of unemployment as determined from the question “What is your longest period of job-seeking since leaving the Armed Forces? (in months)” (Figure 4-5).

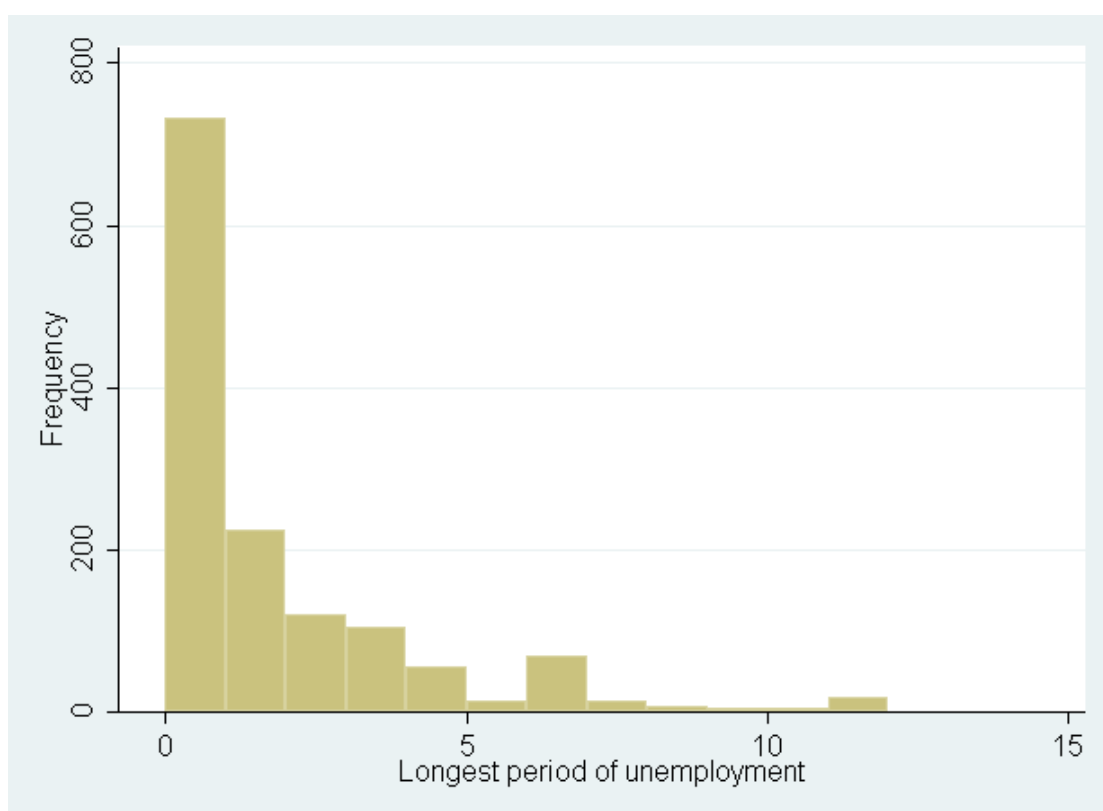


Figure 4-5 Longest period of unemployment (months)

Longest period of job-seeking was analysed using negative binomial regression (with time after leaving as the exposure variable). Of the 311 missing responses for longest period of unemployment, 248 were employed, and further investigation of the data showed that most others gave other responses explaining why they had not answered this question.

¹³ I.e. a variable indicating the number of exposures on which an outcome could have occurred.

4.6.7 Independent variables

Pre-enlistment vulnerability

As described above, PEV can be scored 0-16; in these analyses, PEV score is used as a continuous variable.

Time after leaving

Time after leaving cannot be treated as a linear, continuous variable with respect to employment, since employment rapidly plateaus near 100% (Figure 4-6). Consequently, when analysing employment, this variable will be applied as a continuous variable to 9 months, after which point all times will be treated the same (i.e. the variable has a maximum value of 9 months).

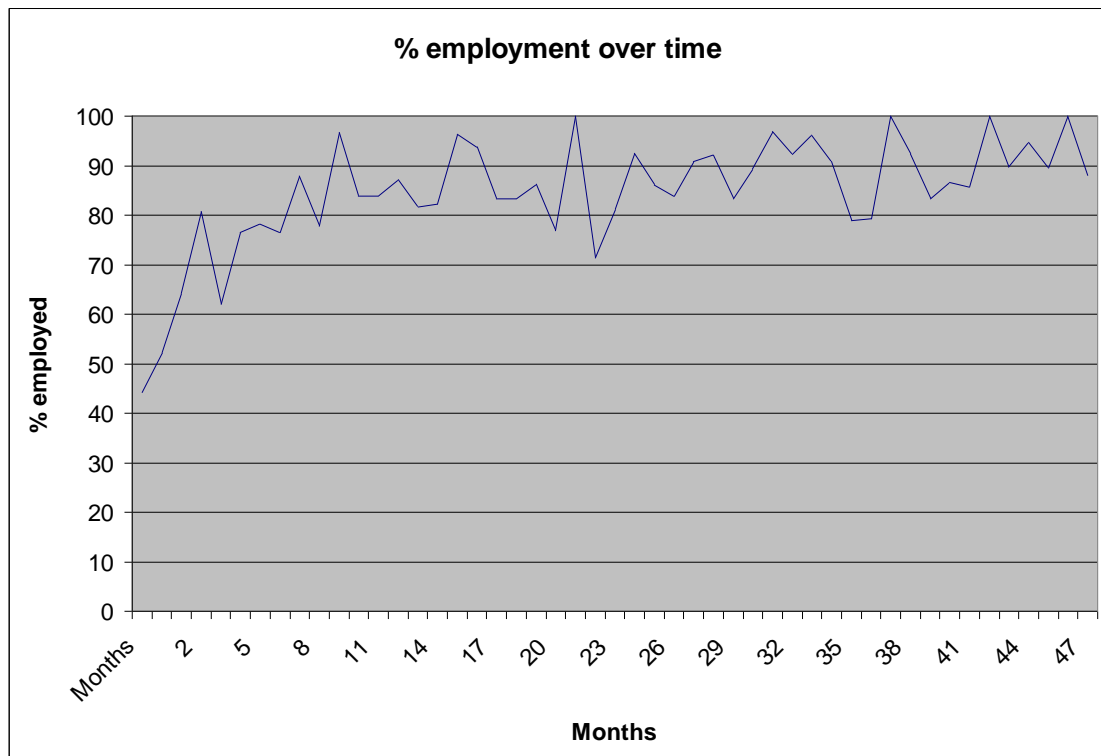


Figure 4-6 Proportion employed by time after leaving (in months)

Time after leaving service is used as an exposure variable when modelling occupational transience and maximum length of unemployment by negative binomial regression (as stated above).

Length of service

Length of service is not spread evenly across the sample (Figure 4-7) – this is partly because there are certain intervals during service when standard terms of service are complete (see Chapter 1.2), and hence the individual is more likely to leave at these points. Figure 4-7 demonstrates that individuals most frequently leave around 4 years (i.e. on completion of their initial term of service), with a second peak around 22 years (at which point full pension rights are acquired).

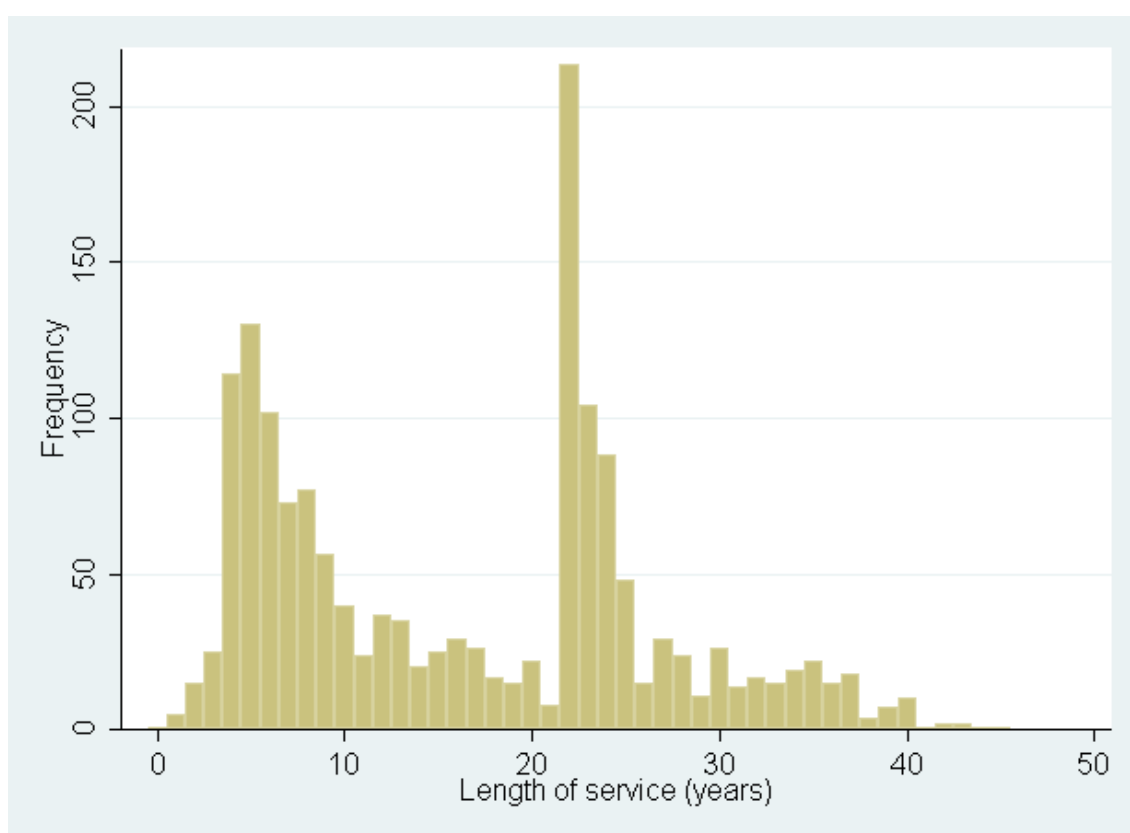


Figure 4-7 Frequency distribution of length of service (years)

In deciding how to examine the effect of length of service, this variable was plotted against each outcome variable. Length of service has no significant effect on post-service employment using a linear model ($p = 0.827$), but does if a quadratic model is utilised¹⁴ ($p = <0.001$ for both linear and quadratic terms) (Figure 4-8); hence a

¹⁴ Calculated using both sexes, response weighted, no adjustments made for other factors.

quadratic model for length of service was selected when examining current employment.

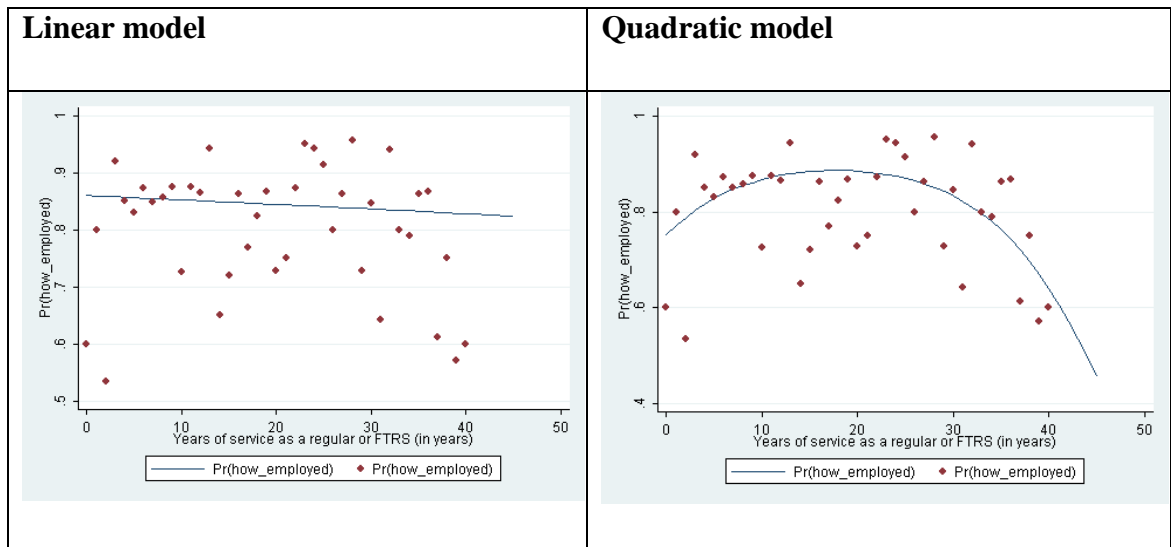


Figure 4-8 Employment and length of service (in years) as a linear vs. a quadratic variable

Similarly, for EER, a quadratic model will be used for length of service.

In considering occupational transience, length of service is better applied as a continuous linear variable; the resulting models are similar (Figure 4-9), but the quadratic model was non-significant ($p = 0.906$ for linear term in quadratic model but $p < 0.001$ for linear model).

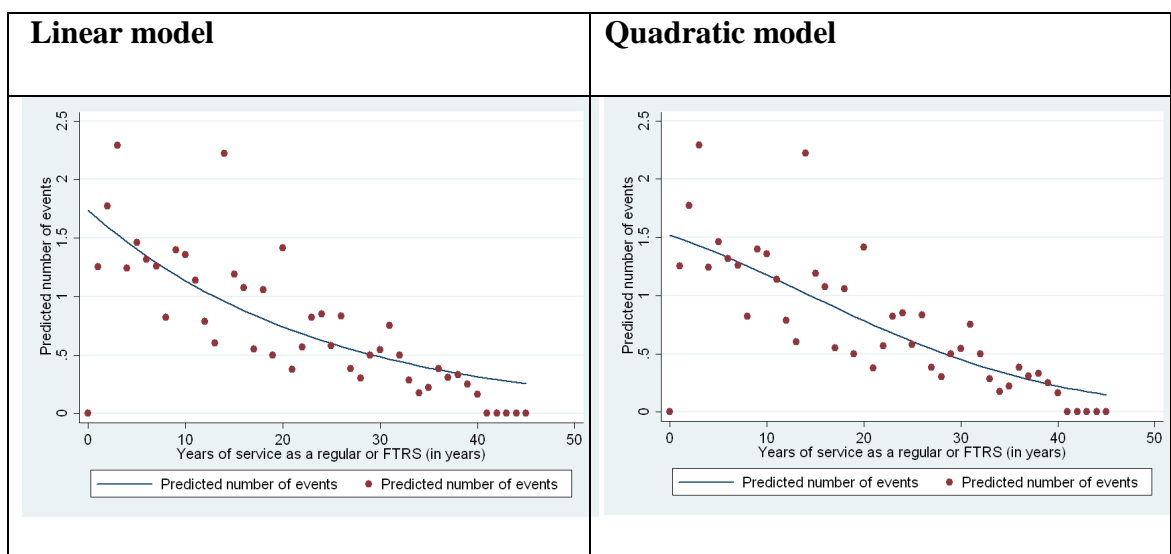


Figure 4-9 Change in occupational transience with length of service

For longest period of job-seeking, length of service was again best applied as a continuous linear variable ($p = 0.170$ for linear term in quadratic model but $p = 0.001$ for linear model) (Figure 4-10).

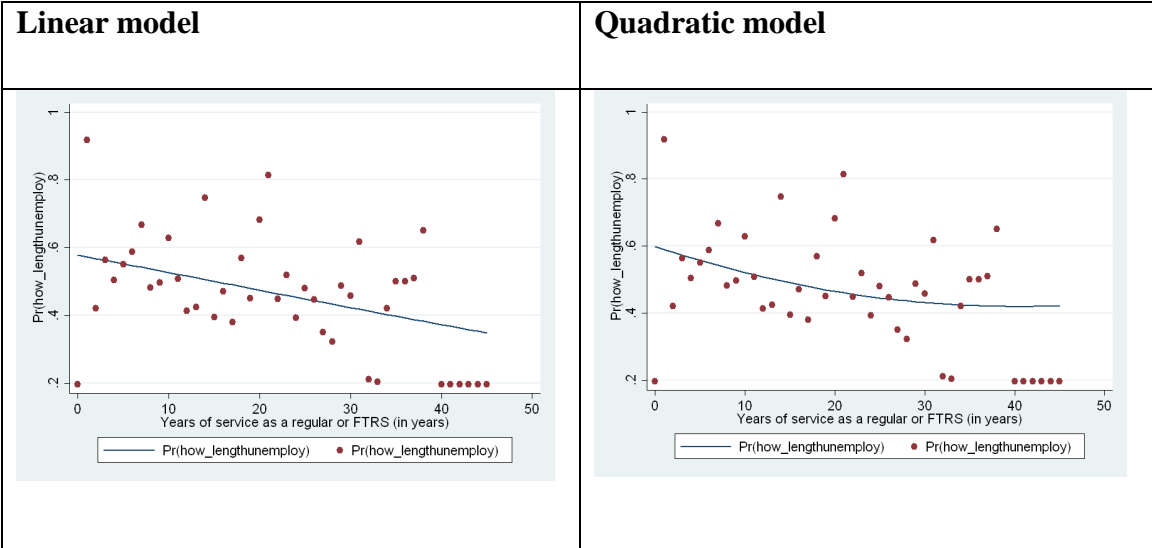


Figure 4-10 Longest period of unemployment (in months) with length of service (in years)

4.7 Social exclusion

This section discusses the analysis presented in the Social Exclusion chapter (Chapter 11). As with the previous section, I include here details of the outcome variables used in these analyses, and the how certain independent variables will be used in the analyses of these social exclusion outcomes.

4.7.1 Questionnaire social exclusion-related fields

The following questions regarding social exclusion were asked in the questionnaire (possible responses in square brackets):

- Q2.14: Where are you living at the moment? [I live in a house I own/With friends or family (temporary)/With friends or family (permanent)/Private rented property/Local authority rented property/Housing association rented property/Hostel or Bed & Breakfast/Other]

- Q2.15: How many places have you lived in since you left the Armed Forces?
[number]
- Q2.16: Have you been in trouble with the police/law since you left (excluding speeding/parking offences)? [Yes/No]
- Q5.32: Please indicate which of the following organisations you belong to or social activities you regularly choose to do outside of work [Team sports or outdoor pursuits/Further education/Religious gatherings or societies/Social or hobby-related clubs/Voluntary services/Visiting friends or family/Going to pubs or clubs/Going to watch sporting events with friends/Going to the gym with friends/Other (please specify)]
- Q5.33: How many close friends or relatives do you meet and/or talk with on a regular basis? [None/1-2/3-5/6-10/11-15/more than 15]

4.7.2 Housing

The possible responses to current living arrangements were reduced to 3 categories:

- Home ownership: those who answered “I live in a house I own”
- Permanent rental accommodation: includes “With friends or family (permanent)”, “Private rented property”, “Local authority rented property”, “Housing association rented property”
- Temporary accommodation: comprises “With friends or family (temporary)”, “Hostel or Bed & Breakfast”

Nine respondents endorsed multiple categories – most of these distinctions were solved by the re-categorisation, choosing home ownership over other categories where there was conflict. 64 respondents endorsed “other”, but it was possible to categorise most of

these from their write-in answers. After re-categorisation, responses were as shown in Table 4-14. There were 13 missing responses (seven who gave no answer at all, and six who gave a write-in answer that could not be categorised).

Table 4-14 Current housing situation (after re-categorisation) (n=1,711)

Housing situation	Number (%)
Home ownership	1,163 (68.0)
Permanent rental accommodation	428 (25.0)
Temporary accommodation	107 (6.3)
Missing	13 (0.8)

4.7.3 Residential transience

Most people answered the question for the number of places they had lived in since leaving the Services with an integer response. 15 were missing, and three respondents gave written answers that said they had moved many times, without specifying a number; these were treated as missing. There were 18 respondents who reported zero for the number of places they had lived in since leaving, despite stating elsewhere they were homeowners or living in private permanent accommodation; lacking further information to reconcile this conflict, these were also treated as missing.

A variable was generated for “residential transience” from the number of places where the respondent had lived, minus one (Table 4-15).

Table 4-15 Number of times moved (residential transience) (n=1,711)

Number of times moved	Number (%)
Zero	1,044 (61.0)
Once	397 (23.2)
Two or more	234 (13.7)
Missing	36 (2.1)

4.7.4 Legal difficulty

Table 4-16 shows whether respondents endorsed having been in trouble with the law since leaving the military.

Table 4-16 Responses to trouble with the law (n=1,711)

Have been in trouble with the law	Number (%)
Yes	73 (4.3)
No	1,635 (95.6)
Missing	3 (0.2)

4.7.5 Social activities

Rather than treat involvement with each social activity separately, a single variable for “number of social activities” was constructed by counting the number of social activities in which the individual was participating. One limitation of this variable is that there is no way to distinguish missing data from those who intentionally didn’t endorse any categories (as the questionnaire provides a tick box for each activity, with no option for “no”). However, as there is little missing data in other social responses

(e.g social network size), and zero scores were not obviously over-represented, this was not considered a problem in this case. The number of social activities was reasonably close to a normal distribution (Figure 4-11), so linear regression was used as the basis for analysis of this dependent variable.

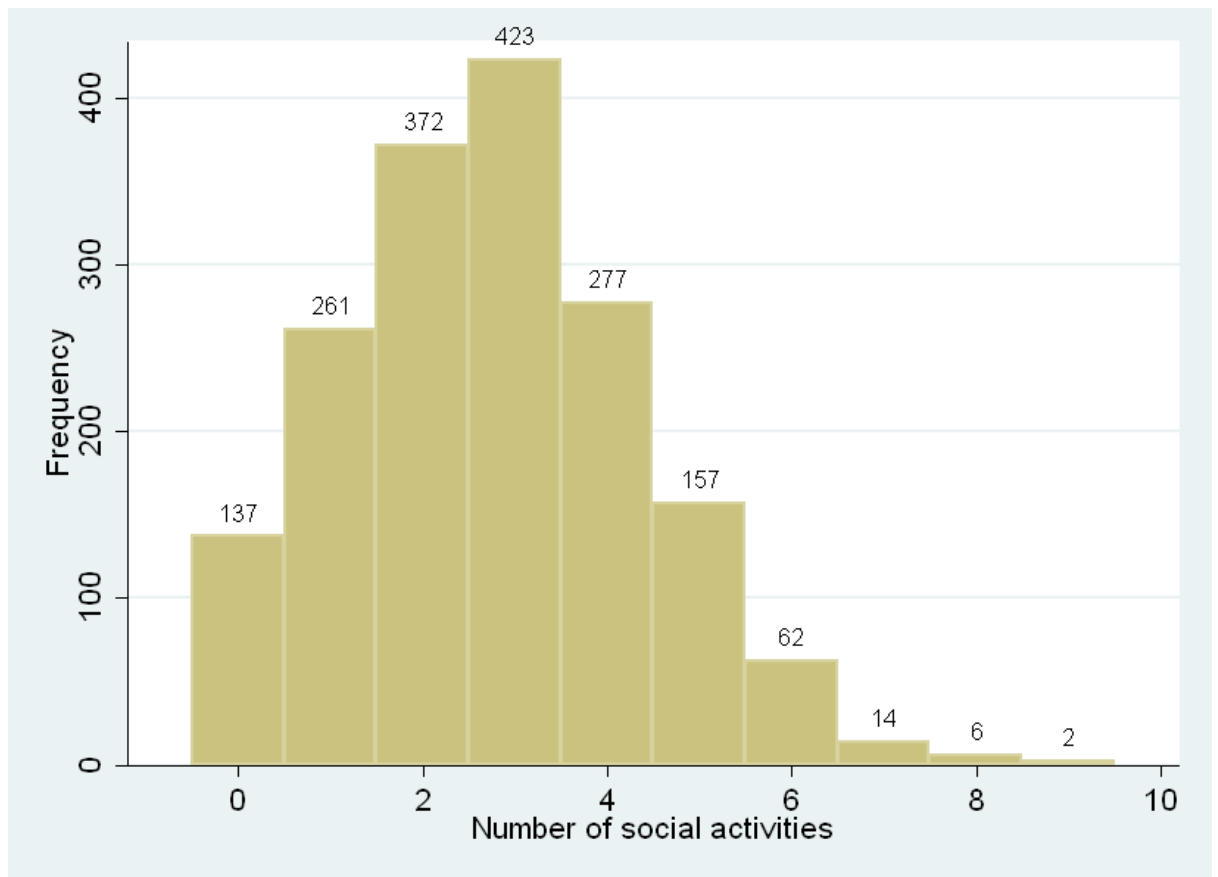


Figure 4-11 Number of social activities

4.7.6 Social network size

Answers to the question regarding how many close friends or relatives the respondent has regular contact with were provided in six groups:

1. None
2. 1-2
3. 3-5
4. 6-10
5. 11-15
6. More than 15

Responses are shown in Figure 4-12.

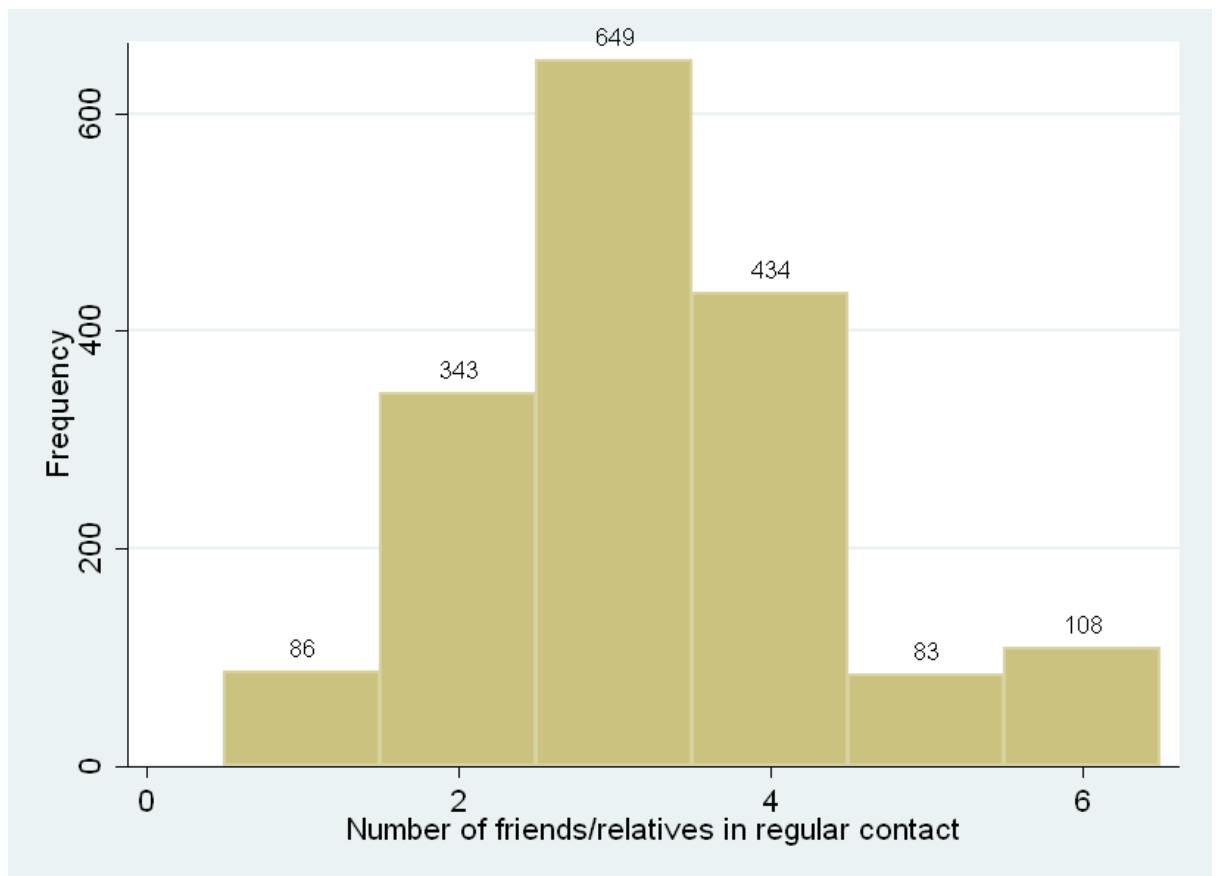


Figure 4-12 Social network size: numbers of friends/relatives in regular contact, by grouping

As these categories represent numerical data, it was judged that treating this as a non-parametric variable was inappropriate (and hence linear regression could not be used).

Instead, these data were compressed into a binary variable: those who responded with “none” or “1-2” were combined to generate a value for “small social network”, while all other higher categories were combined into a value for “larger social network”. This binary variable could then be used for logistic regression.

4.7.7 Independent variables

As with employment-related analyses, some discrete independent variables can be applied as continuous variables.

Pre-enlistment vulnerability

As with employment-related outcomes, pre-enlistment vulnerability scores will be used as a continuous variable.

Time since leaving

Housing

It might be expected that accommodation tends towards a permanent solution (i.e. home ownership) over time and will plateau, as is the case for employment. However, this was not seen in practice – in fact, a quadratic model was found to be the best fit for accommodation situation over time since leaving; years since leaving was not significantly associated with private accommodation in the linear model, but both terms (linear and quadratic) were significant in the quadratic model (Figure 4-13). Note that most individuals left less than 6 years ago, so the left halves of the graphs are of greater relevance.

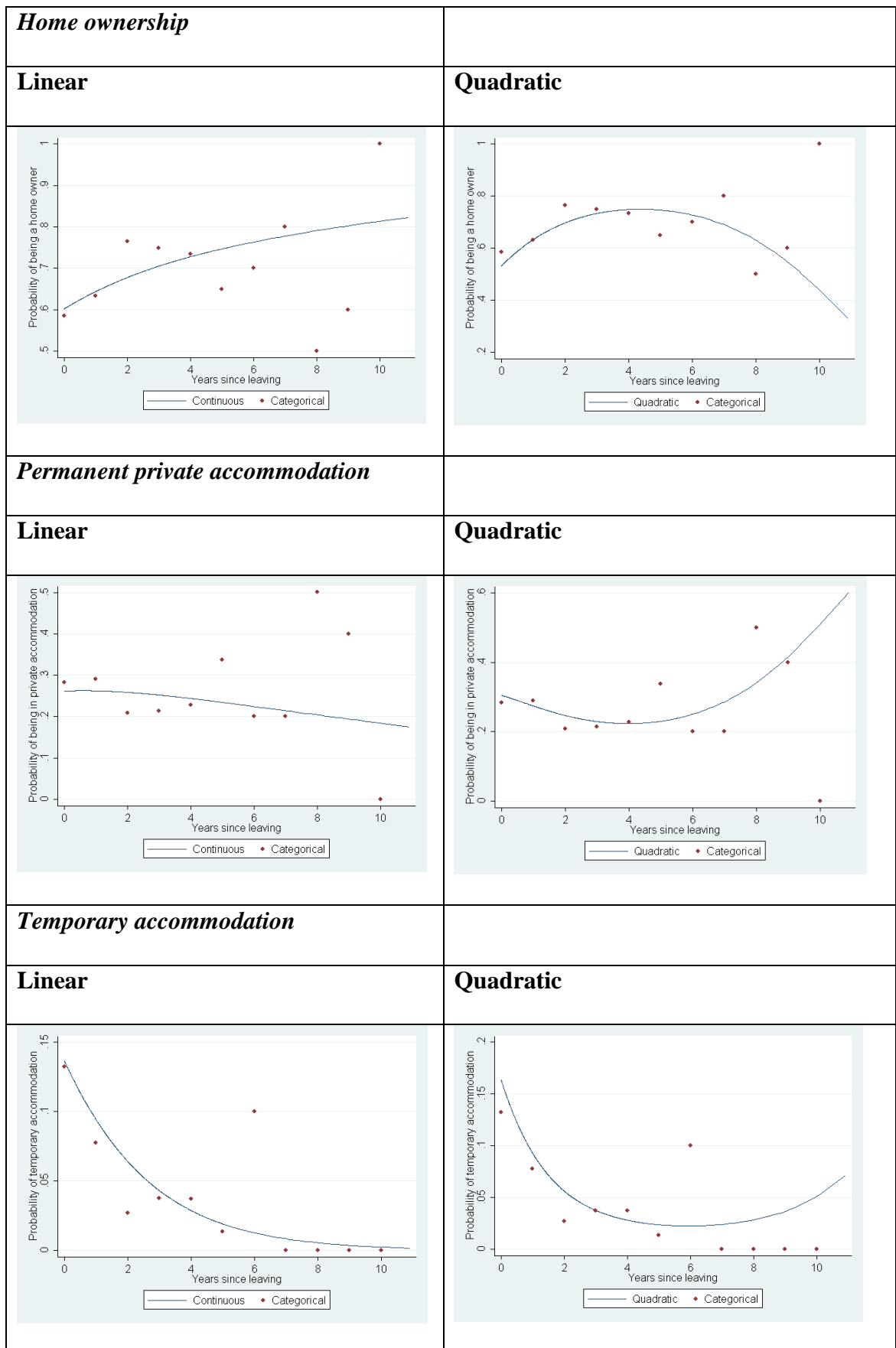


Figure 4-13 Accommodation and time since leaving, linear and quadratic

models

Residential transience

Residential transience uses time since leaving as an exposure variable.

Legal difficulty

Time after leaving with legal difficulty is best modelled as a linear continuous variable (Figure 4-14).

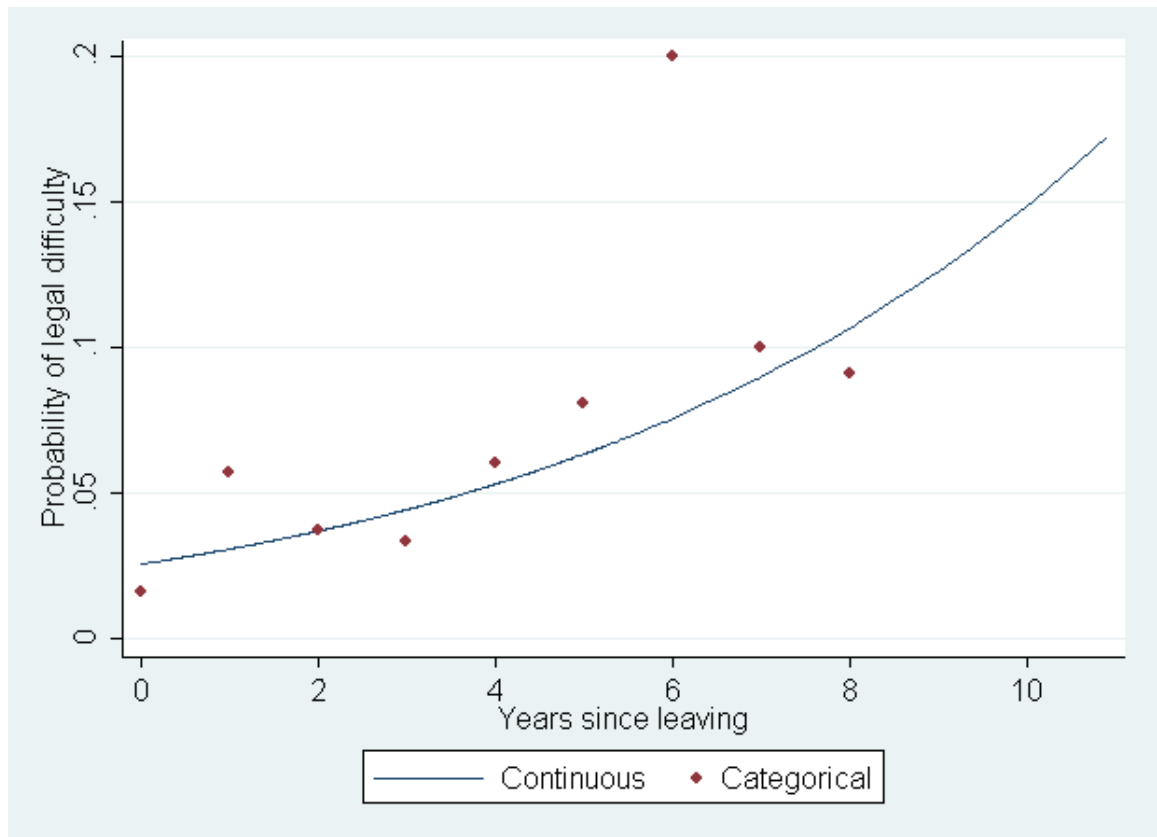


Figure 4-14 Model for change in probability of legal difficulty with years since leaving

Social activities

Number of social activities with time since leaving is better modelled quadratically (Figure 4-15); while time since leaving was significant in the linear model ($p = 0.021$), the fit was better with the quadratic model (linear term $p = 0.008$, quadratic term $p = 0.042$).

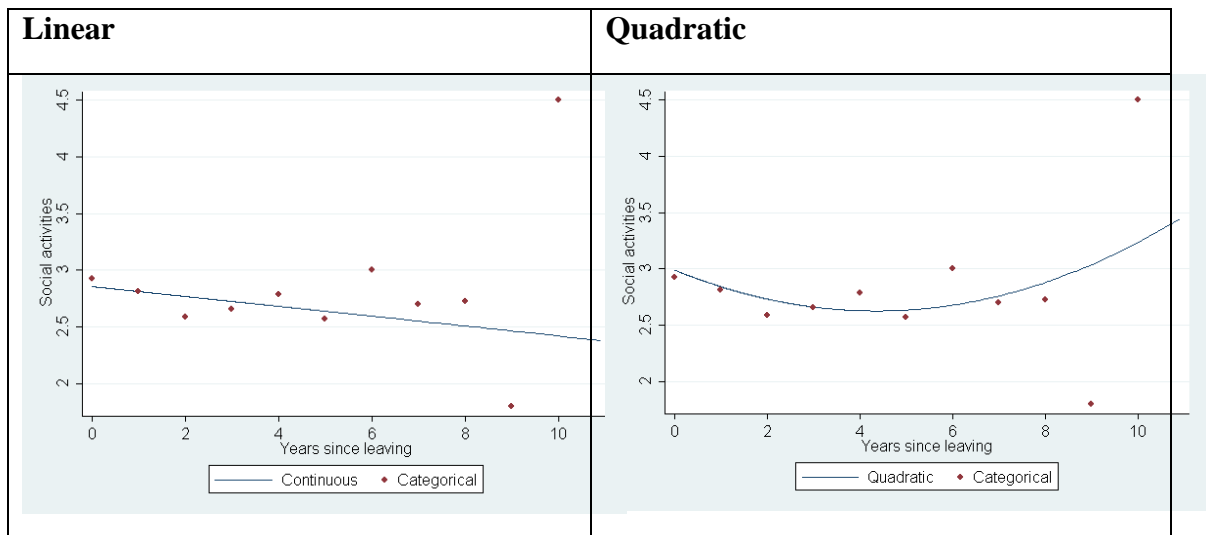


Figure 4-15 Number of social activities and time since leaving

Social network size

Time since leaving showed was better using a quadratic model with respect to social network size, though neither model demonstrated a significant relationship (linear model: $p = 0.316$; quadratic model: $p = 0.263$ for linear term) (Figure 4-16).

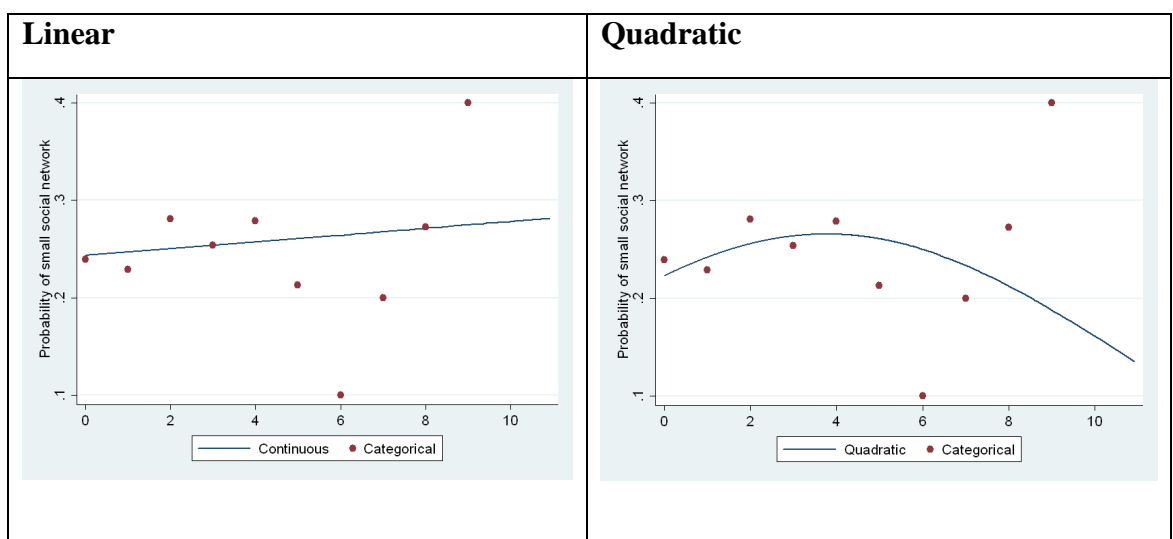


Figure 4-16 Time since leaving and social network size

Length of service

Housing

The best model for length of service was also considered. Length of service is associated with accommodation in a linear fashion (Figure 4-17, p -values for length of service in multinomial regression all < 0.001). Adding a quadratic term was not

advantageous (not shown; the quadratic term was not significant, and the quadratic model was not significantly different from the linear model: $p = 0.896$).

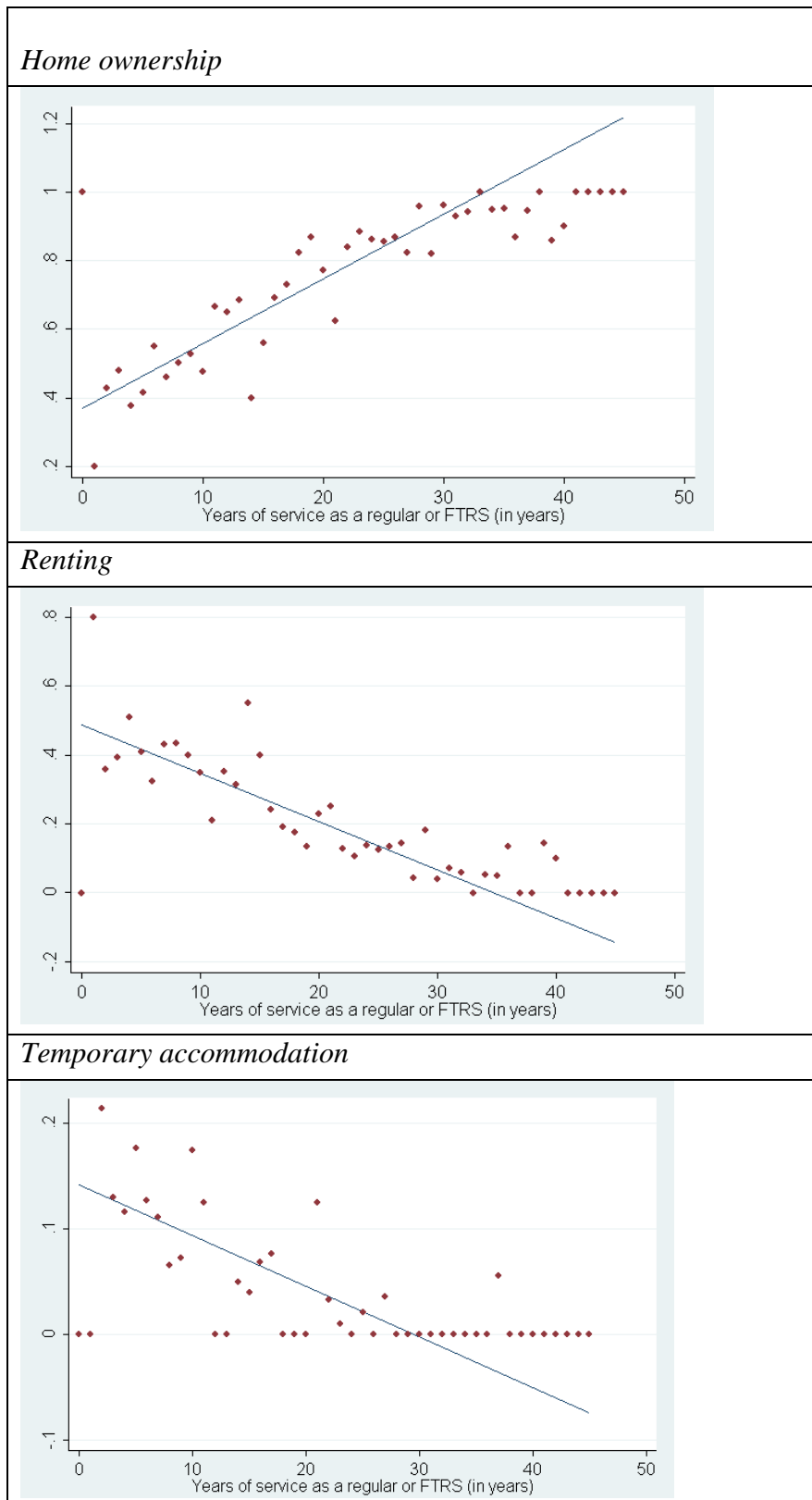


Figure 4-17 Accommodation with length of service (lines are fitted lines of linear model)

Residential transience

Residential transience was best modelled as a linear continuous variable with length of service (Figure 4-18): length of service was not significant in the quadratic model, but was in the linear model ($p < 0.001$).

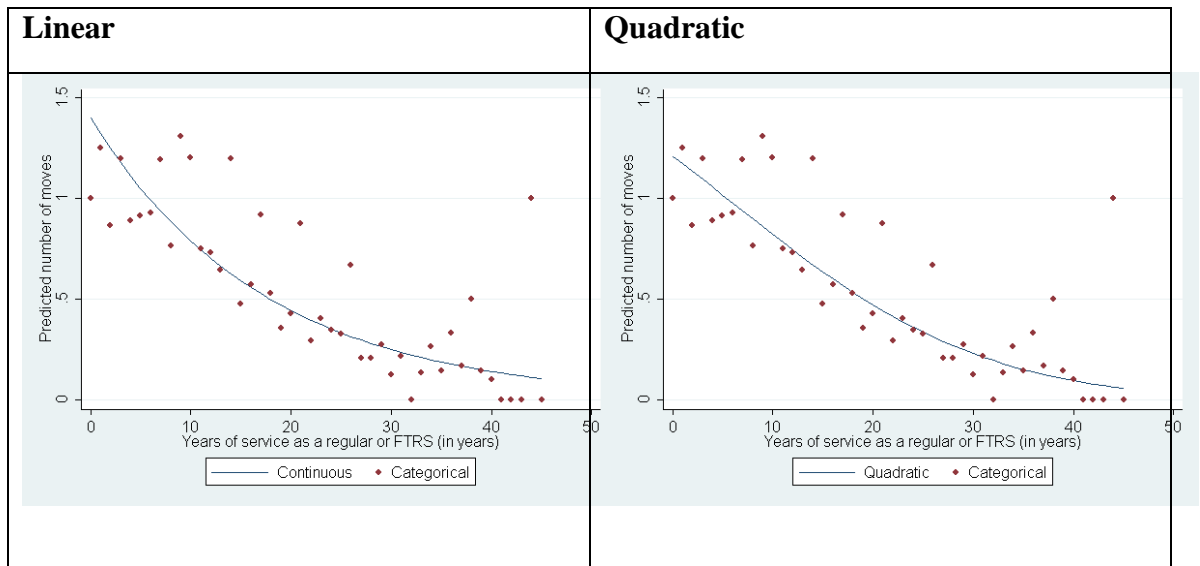


Figure 4-18 Residential transience with length of service

Legal difficulty

Due to low numbers, legal difficulty shows a great deal of variation over length of service. Nonetheless, logistic regression with length of service as a continuous variable is a valid model (goodness-of-fit comparing length of service as a continuous vs a categorical variable $\chi^2 = 51.34$, $p = 0.208$). The linear model is better than the quadratic model (for length of service in linear model $p < 0.001$, whereas neither term is significant in quadratic model) (Figure 4-19).

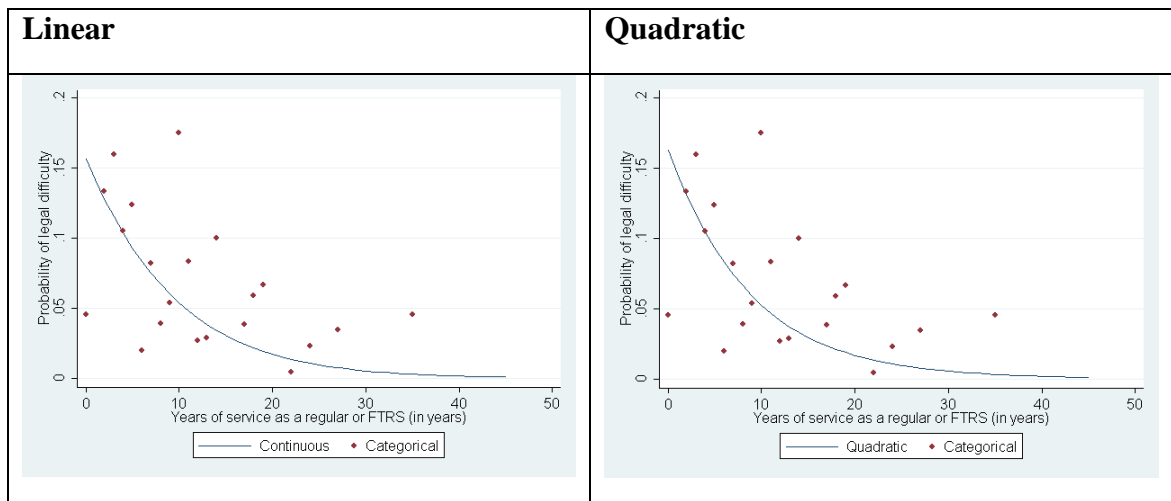


Figure 4-19 Model for change in likelihood of encountering legal difficulty with length of service

Social activities

Number of social activities is best modelled quadratically; linear terms are significant in both models ($p < 0.001$ in both cases), but the added quadratic term is also highly significant ($p < 0.001$) (Figure 4-20).

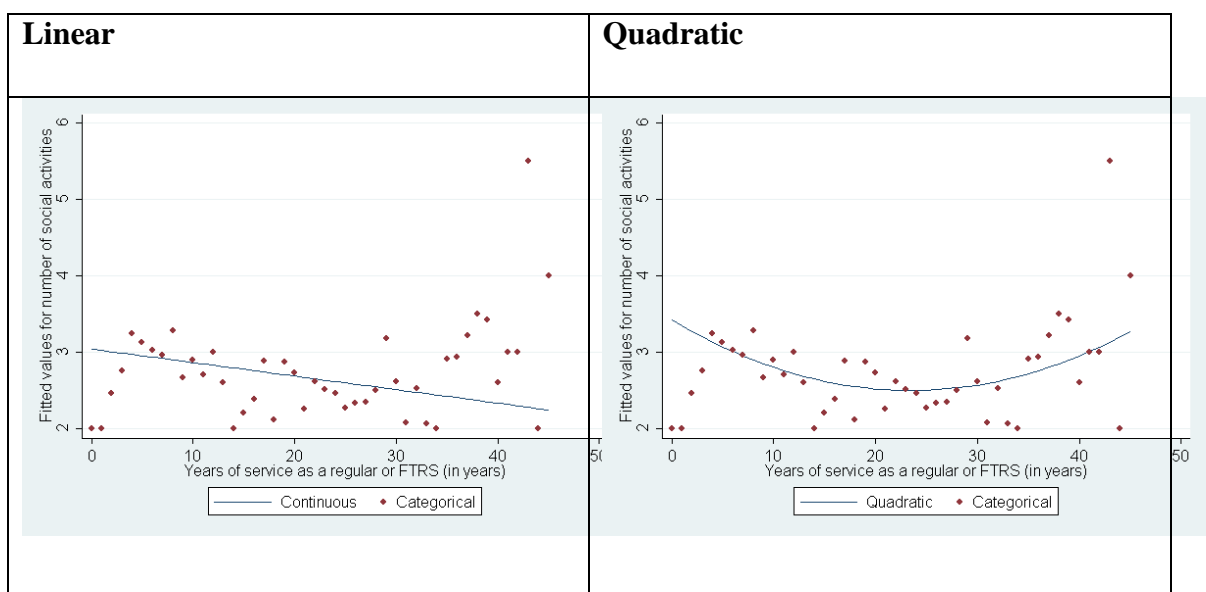


Figure 4-20 Number of social activities by length of service

Social network size

Length of service fitted a quadratic model best; while the linear model showed a significant association between length of service and small social network ($p = 0.027$),

both terms in the quadratic model were significant ($p < 0.001$ for both terms) (Figure 4-21).

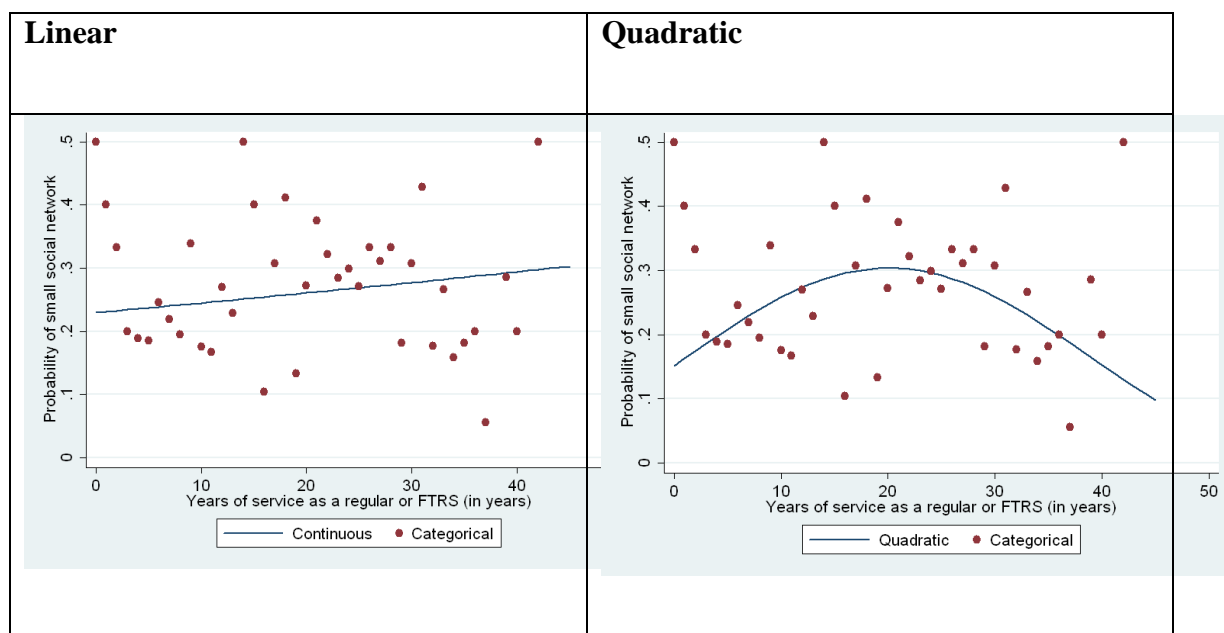


Figure 4-21 Length of service and time since leaving by social network size

4.8 Mental health, alcohol misuse and physical violence

This section discusses the outcome and independent variables used in the analyses in the Mental Health, Alcohol Misuse and Physical Violence chapter (Chapter 12). The questionnaire provided to respondents asked questions regarding symptoms of common mental disorders, post-traumatic stress disorder symptoms, alcohol misuse, and acts of violence committed by the respondent.

4.8.1 Common mental disorders (CMD)

Symptoms of common mental disorder were measured with the 12-item General Health Questionnaire (GHQ) (Goldberg and Williams, 1988; Goldberg et al., 1997). This is a screening instrument designed to identify two classes of problems: inability to carry out normal “healthy” functions, and the appearance of new distressing phenomena (Goldberg and Hillier, 1979). It is intended to be used in clinical settings for identification of potential cases, prior to diagnosis by psychiatric interviews, but may also be used in surveys as in this case (Goldberg, 1972). GHQ has good reliability

(Cronbach's $\alpha = 0.83$), and has been shown to be a consistent instrument over long periods in a UK general population (Pevalin, 2000). It been validated clinically against the Composite International Diagnostic Interview (CIDI-PC) (Goldberg et al., 1997), which generates diagnoses using either the International Classification of Disease, 10th Edition (World Health Organisation, 1993), or the Diagnostic and Statistical Manual of the American Psychiatric Association, 4th edition (American Psychiatric Association, 2000). Diagnoses included in this comparison included depression, dysthymia, agoraphobia, panic disorder, generalized anxiety disorder, somatisation disorder, chronic fatigue and hypochondriasis. The GHQ questionnaire asked a series of statements with the stem "Within the last few weeks have you:", and having responses as shown in Table 4-17. Summarizing 17 validating studies found a median sensitivity of 83.7% and median specificity of 79.0%. The optimal threshold score for the UK health care centre in this study was found to be 4. This had a sensitivity of 84.6 and a specificity of 89.6. Consequently, in this thesis a case for symptoms of CMD was designated as scoring 4 or more (based on the recoded values below); thus a binary outcome was generated, scoring with the recommended binary method where responses of "better than usual" and "same as/no more than usual" were recoded as 0, while responses of "rather more than usual" and "much more than usual" were recoded to 1.

Table 4-17 Questions and responses to the GHQ-12 questionnaire

Question	Responses (coded values)
Been able to concentrate on whatever you're doing?	Better than usual (0)/ Same as usual (0)/Less than usual (1)/Much less than usual (1)
Lost much sleep over worry?	Not at all (0)/No more than usual (0)/Rather more than usual (1)/Much more than usual (1)
Felt that you are playing a useful part in things?	More so than usual (0)/Same as usual (0)/Less so than usual (1)/Much less capable (1)
Felt capable of making decisions about things?	More so than usual (0)/Same as usual (0)/Less useful than usual (1)/Much less useful (1)
Felt constantly under strain?	Not at all (0)/No more than usual (0)/Rather more than usual (1)/Much more than usual (1)
Felt you couldn't overcome your difficulties?	Not at all (0)/No more than usual (0)/Rather more than usual (1)/Much more than usual (1)
Been able to enjoy your normal day to day activities?	More so than usual (0)/Same as usual (0)/Less able than usual (1)/Much less able (1)
Been able to face up to your problems?	More so than usual (0)/Same as usual (0)/Less able than usual (1)/Much less able (1)
Been feeling unhappy and depressed?	Not at all (0)/No more than usual (0)/Rather more than usual (1)/Much more than usual (1)
Been losing confidence in yourself?	Not at all (0)/No more than usual (0)/Rather more than usual (1)/Much more than usual (1)
Been thinking of yourself as a worthless person?	Not at all (0)/No more than usual (0)/Rather more than usual (1)/Much more than usual (1)
Been feeling reasonably happy, all things considered?	More so than usual (0)/About same as usual (0)/Less so than usual (1)/Much less than usual (1)

4.8.2 Probable post-traumatic stress disorder (PTSD)

Probable post-traumatic stress disorder (PTSD) was identified in the questionnaire using the 17-item National Centre for PTSD Checklist (civilian version) (PCL) (Weathers et al., 1994; Blanchard et al., 1996). This measure is based around self-report of problems experienced by the respondent in the past month, scoring items from 1 to 5. The measure has been validated with US military personnel (Hoge et al., 2004; Lang et al., 2003) and on civilians (Smith et al., 2008a), though it has not been validated on a UK military population. The PCL-C shows good correlation of 0.93 with the clinician administered PTSD scale (CAPS) (Blanchard et al., 1996) and 0.82 with the Mississippi scale of PTSD (Ruggiero et al., 2003).

In this thesis, a total score was obtained by summing all 17 items to produce a range of 17-85. To derive a binary value for probable post-traumatic stress disorder, a cutoff value of 50 or more was used to define caseness – while a range of cutoffs are used depending on context, this value was used in this thesis so that results were comparable with previous work on this cohort (Hotopf et al., 2006; Iversen et al., 2008; Fear et al., 2010). The checklist comprises a series of questions with the stem “How much have you been bothered by these problems in the past month?” (Table 4-18).

Table 4-18 Questions and responses to the PCL-C questionnaire

Question	Responses (coded values)
Repeated, disturbing memories, thoughts, or images of a stressful experience?	Not at all (1)/A little bit (2)/Moderately (3)/Quite a bit (4)/Extremely (5)
Repeated, disturbing dreams of a stressful experience?	Not at all (1)/A little bit (2)/Moderately (3)/Quite a bit (4)/Extremely (5)
Suddenly acting or feeling as if a stressful experience were happening again (as if you were re-living it)?	Not at all (1)/A little bit (2)/Moderately (3)/Quite a bit (4)/Extremely (5)
Feeling very upset when something reminded you of a stressful experience?	Not at all (1)/A little bit (2)/Moderately (3)/Quite a bit (4)/Extremely (5)
Having physical reactions (e.g. heart pounding, trouble breathing, sweating) when something reminded you of a stressful experience?	Not at all (1)/A little bit (2)/Moderately (3)/Quite a bit (4)/Extremely (5)
Avoiding thinking about or talking about a stressful experience?	Not at all (1)/A little bit (2)/Moderately (3)/Quite a bit (4)/Extremely (5)
Avoiding activities or situations because they remind you of a stressful experience?	Not at all (1)/A little bit (2)/Moderately (3)/Quite a bit (4)/Extremely (5)
Trouble remembering important parts of a stressful experience?	Not at all (1)/A little bit (2)/Moderately (3)/Quite a bit (4)/Extremely (5)
Loss of interest in activities that you used to enjoy?	Not at all (1)/A little bit (2)/Moderately (3)/Quite a bit (4)/Extremely (5)
Feeling distant or cut-off from other people?	Not at all (1)/A little bit (2)/Moderately (3)/Quite a bit (4)/Extremely (5)
Feeling emotionally numb or being unable to have loving feelings to those who are close to you?	Not at all (1)/A little bit (2)/Moderately (3)/Quite a bit (4)/Extremely (5)
Feeling as if your future will somehow be cut short?	Not at all (1)/A little bit (2)/Moderately (3)/Quite a bit (4)/Extremely (5)
Having trouble falling or staying asleep?	Not at all (1)/A little bit (2)/Moderately (3)/Quite a bit (4)/Extremely (5)
Feeling irritable or having angry outbursts?	Not at all (1)/A little bit (2)/Moderately (3)/Quite a bit (4)/Extremely (5)

Question	Responses (coded values)
Having difficulty concentrating?	Not at all (1)/A little bit (2)/Moderately (3)/Quite a bit (4)/Extremely (5)
Being super alert, watchful or on-guard?	Not at all (1)/A little bit (2)/Moderately (3)/Quite a bit (4)/Extremely (5)
Feeling jumpy or easily startled?	Not at all (1)/A little bit (2)/Moderately (3)/Quite a bit (4)/Extremely (5)

4.8.3 Alcohol misuse

Respondents' degree of alcohol use was examined with the World Health Organization Alcohol Use Disorders Identification Test (AUDIT) (Babor et al., 2001), a 10-item measure scoring items 0-4. This measure screens for hazardous alcohol use, alcohol dependence and alcohol misuse (i.e. harm). AUDIT has a 3-month test-retest reliability of 0.65-0.88 (Bradley et al., 1998). A systematic review of alcohol abuse screening methods found that AUDIT was most effective in identifying subjects with hazardous or harmful drinking, and generally superior to other screening methods except the CAGE questionnaire (whose name is a mnemonic for its questions, and which was better at detecting alcohol abuse and dependence) (Fiellin et al., 2000).

In this case, a cut-off of 16 or more was used to generate a binary outcome (usually defined as hazardous use that is also harmful to health, here largely termed alcohol misuse). The cutoff of 16 is higher than many other studies; this is because Armed Forces personnel have a higher level of drinking, with the majority fulfilling the more common cutoff of 8, and so a higher cutoff is used to improve sensitivity of the instrument (Fear et al., 2007). The AUDIT questionnaire contained questions and responses as shown in Table 4-19.

Table 4-19 Questions and responses to the AUDIT questionnaire

Question	Responses (coded values)
How often do you have a drink containing alcohol?	Never (0)/Monthly or less (1)/2 to 4 times a month (2)/2 to 3 times a week (3)/4 or more times a week (4)
How many drinks of alcohol do you have on a typical day when you are drinking?	1 or 2 (0)/3 or 4 (1)/5 or 6 (2)/7, 8, or 9 (3)/10 or more (4)
How often do you have six or more drinks on one occasion?	Never (0)/Less than monthly (1)/Monthly (2)/Weekly (3)/Daily or almost daily (4)
How often during the last year have you found that you were not able to stop drinking once you had started?	Never (0)/Less than monthly (1)/Monthly (2)/Weekly (3)/Daily or almost daily (4)
How often during the last year have you failed to do what was normally expected of you because of drinking?	Never (0)/Less than monthly (1)/Monthly (2)/Weekly (3)/Daily or almost daily (4)
How often during the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session?	Never (0)/Less than monthly (1)/Monthly (2)/Weekly (3)/Daily or almost daily (4)
How often during the last year have you had a feeling of guilt or remorse after drinking?	Never (0)/Less than monthly (1)/Monthly (2)/Weekly (3)/Daily or almost daily (4)
How often during the last year have you been unable to remember what happened the night before because you had been drinking?	Never (0)/Less than monthly (1)/Monthly (2)/Weekly (3)/Daily or almost daily (4)
Have you or someone else been injured as a result of your drinking?	No (0)/Yes, but not in the last year (2)/Yes, during the last year (4)
Has a relative or friend or a doctor or another health worker been concerned about your drinking or suggested you cut down?	No (0)/Yes, but not in the last year (2)/Yes, during the last year (4)

4.8.4 Physical violence

A measure of violent anger was generated from a section of the questionnaire containing questions with the stem “During the past month, how often did you:”. Following this stem are four questions regarding anger and its expression in violence; however, it is difficult to judge the weight of each question against another; for example, one question asks whether the respondent got angry at someone and shouted at them, while another asks whether the respondent began a fight and physically struck someone else. Clearly these two events are not equivalent. Instead, the only response used was “During the past month, how often did you get into a fight with someone and hit the person”. A binary variable for this response was generated by taking those who had not got into a fight in the past month as scoring 0, and those who had fought as scoring 1 irrespective how many times this had occurred (answers included in the questionnaire were “Once/Twice/3-4 times/5+”).

4.8.5 Independent variables

As with other analyses in this thesis, some independent variables which are recorded as discrete values will be used as continuous variables.

Pre-enlistment vulnerability

As with other outcomes, pre-enlistment vulnerability will be treated as a continuous variable.

Time since leaving

For CMD time since leaving was best applied following a quadratic model (Figure 4-22); while the linear model produces a significant association between years since leaving and CMD ($p = 0.047$), both linear and quadratic terms showed better associations in the quadratic model ($p = 0.002$ and 0.011 respectively).

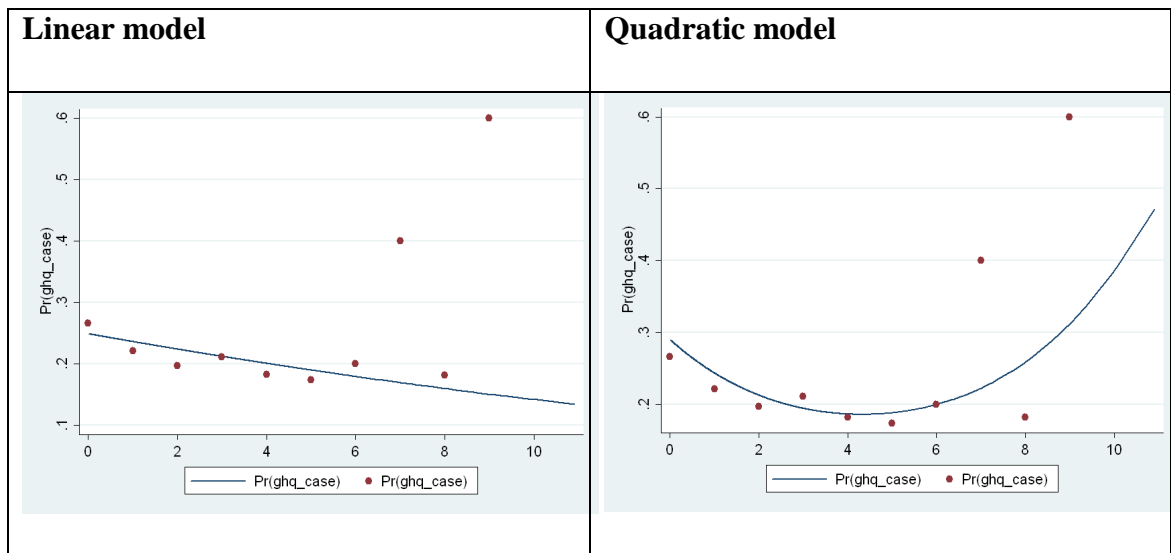


Figure 4-22 Symptoms of CMD by time since leaving in linear and quadratic models

For probable PTSD, time since leaving service was also modelled quadratically (Figure 4-23). While neither term was significant in the quadratic model ($p = 0.060$ for linear term, $p = 0.057$ for quadratic term), the association was better than in the linear model ($p = 0.580$ for association in linear model).

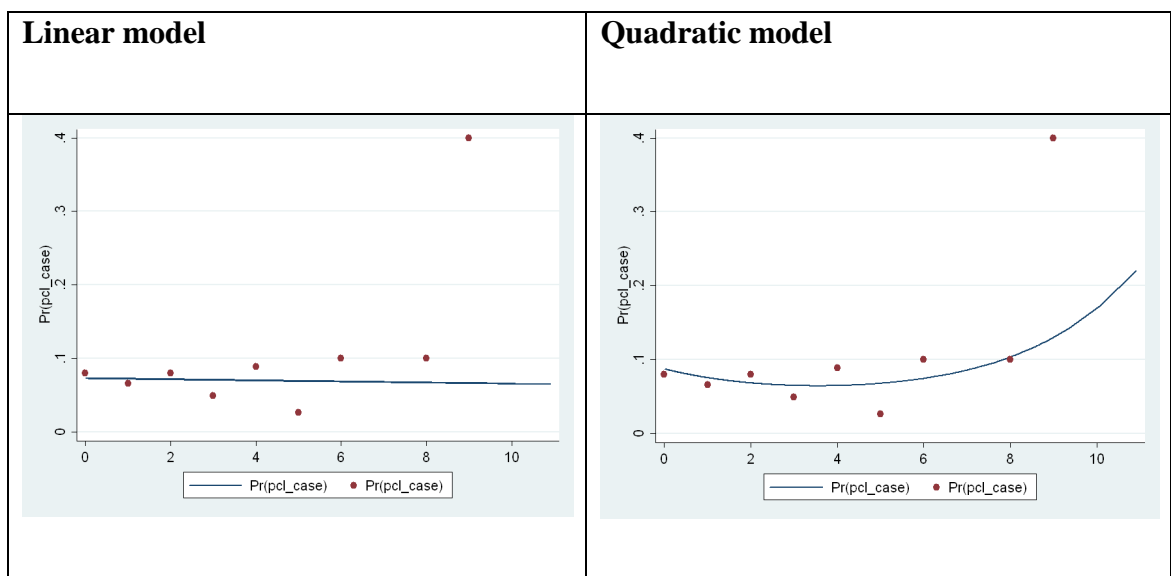


Figure 4-23 Probable PTSD caseness by time since leaving in linear and quadratic models

Time since leaving is best applied as a linear variable with alcohol misuse (Figure 4-24). The linear term shows better association with alcohol misuse in the linear model

($p = 0.006$) than in the quadratic model ($p = 0.017$), and the quadratic term is not significant ($p = 0.191$).

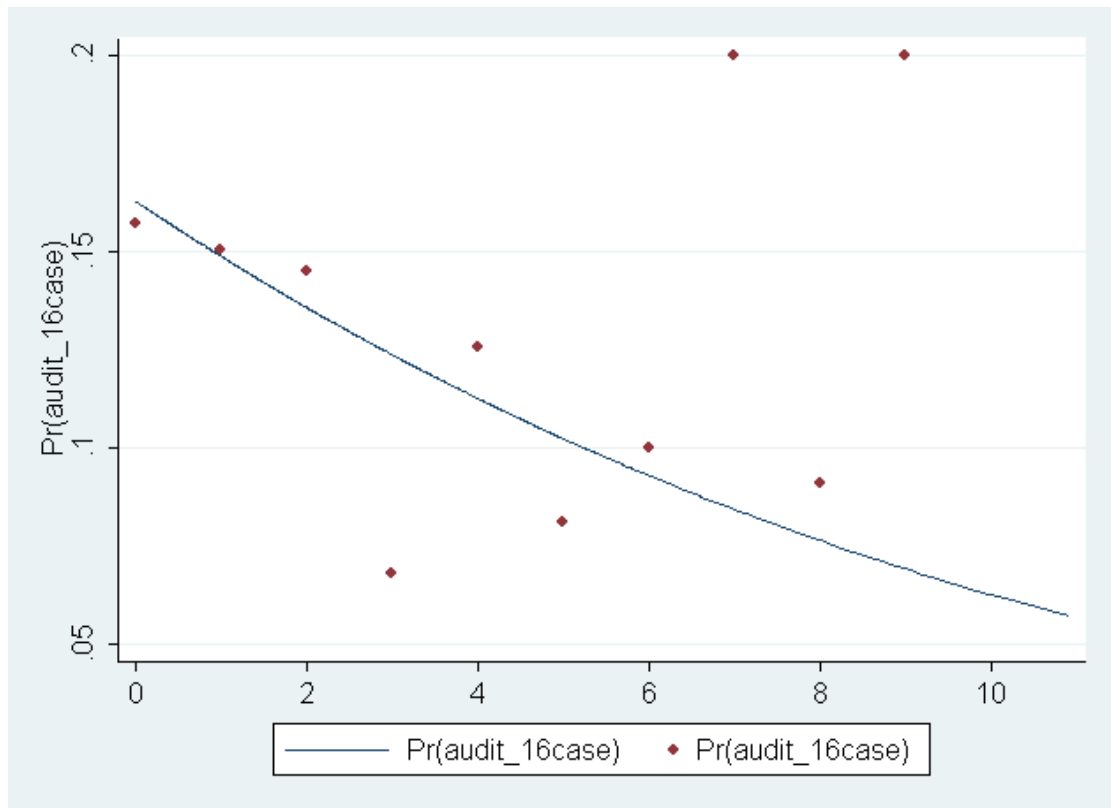


Figure 4-24 Alcohol misuse by time since leaving in a linear model

As with CMD and probable PTSD, time after leaving service is best modelled as a quadratic with physical violence (Figure 4-25). The linear term of the quadratic model is significant in the quadratic model ($p = 0.028$) but the linear model does not show a significant association ($p = 0.183$).

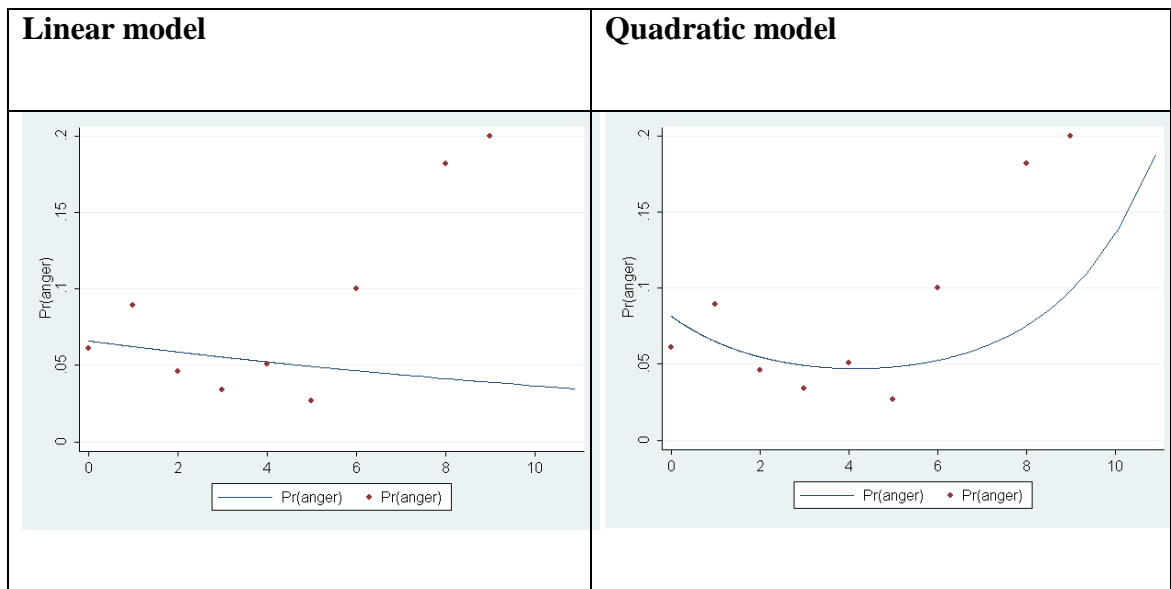


Figure 4-25 Physical violence by time since leaving in linear and quadratic models

Length of service

When analysing the association with symptoms of CMD, length of service is best applied as a linear variable (Figure 4-26).

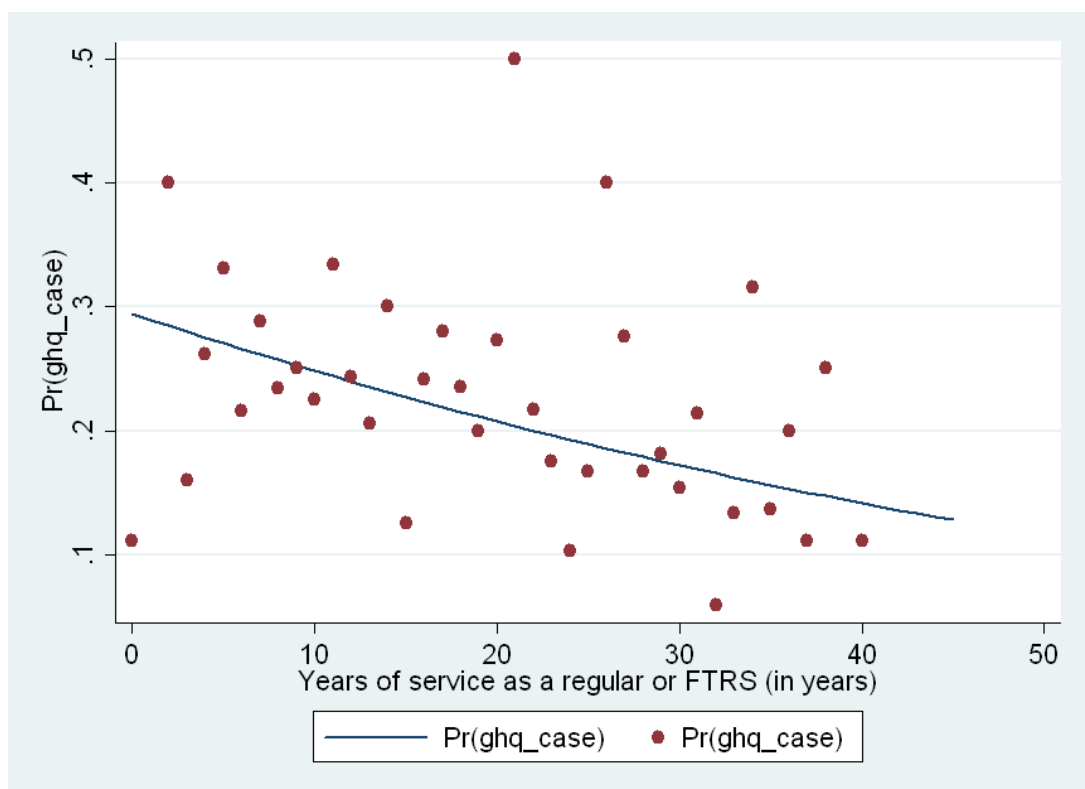


Figure 4-26 Length of service as a linear continuous variable and its relationship with symptoms of CMD

Similarly with probable PTSD, length of service was best treated as a linear variable (Figure 4-27).

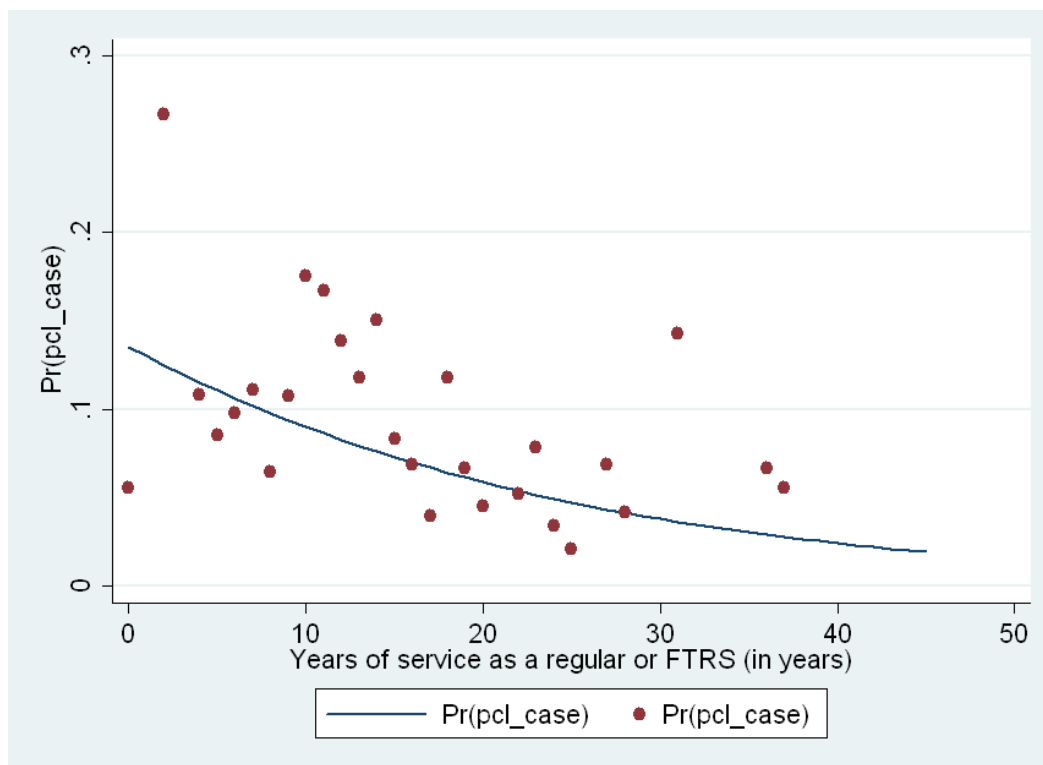


Figure 4-27 Length of service as a linear continuous variable and its association with probable PTSD

Length of service was best treated as a linear variable when examining its association with alcohol misuse (Figure 4-28).

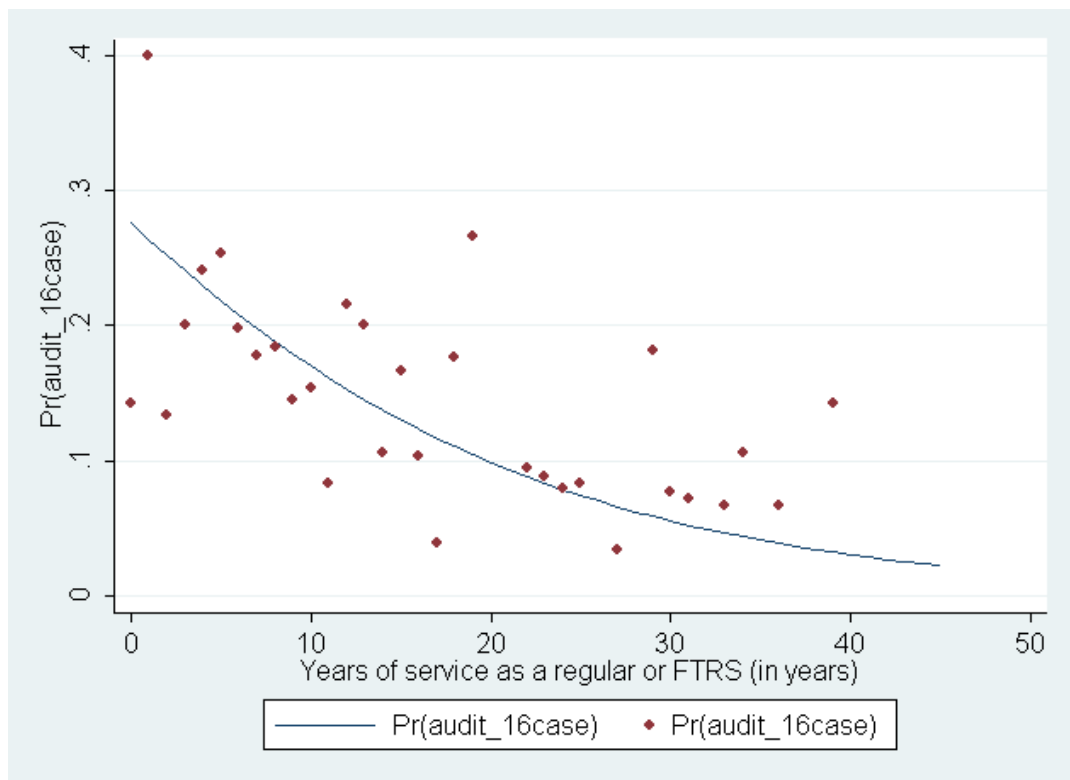


Figure 4-28 Length of service as a linear continuous variable and its association with alcohol misuse

A linear model was also best when analysing the association between physical violence and length of service (Figure 4-29).

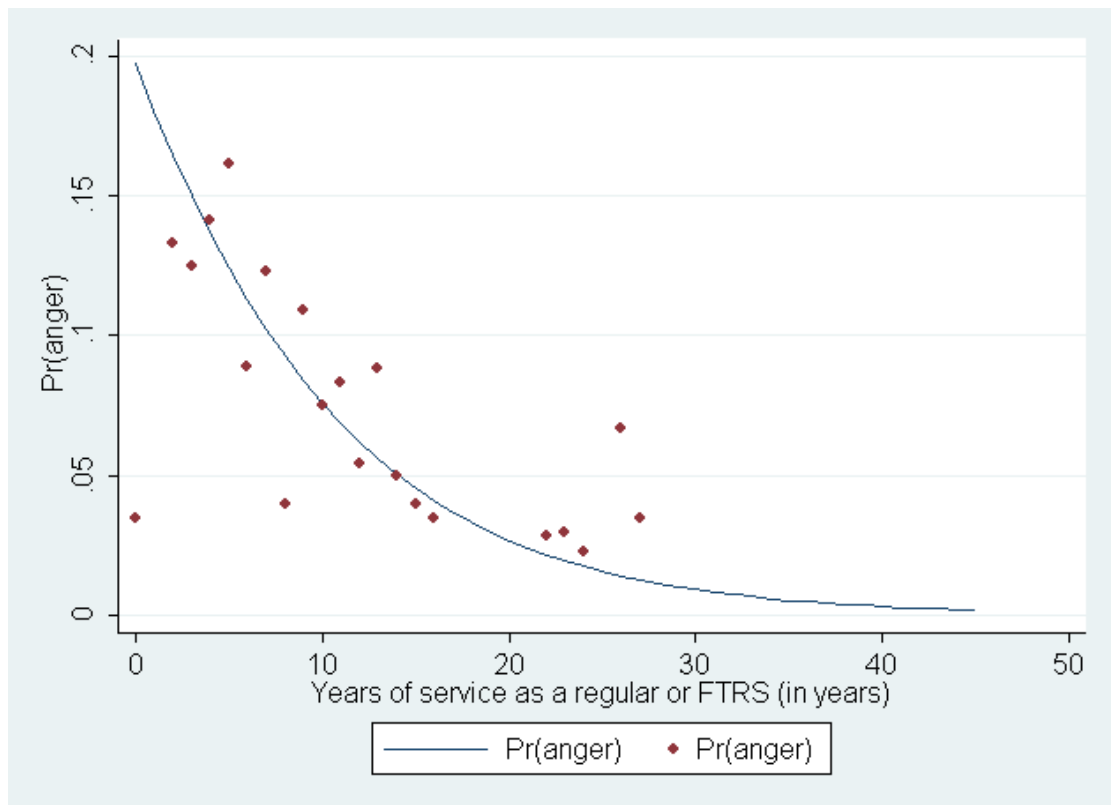


Figure 4-29 Length of service as a linear continuous variable and its association with physical violence

4.8.6 Comparing in-Service to post-Service mental health and alcohol misuse

It would be desirable to determine how mental health and alcohol misuse outcomes differ before and after transition, to understand how the transition process affects these outcomes. As individuals are not measured at consistent time points either side of transition, this is difficult to analyse directly; it is not possible to determine whether occurrence or remission of mental health symptoms occurred before or after transition. Instead, a proxy method was used: the proportions of these outcomes were compared at phase 1 and phase 2 for those who were serving as regulars as phase 1 (i.e. comparing in-service and post-service prevalence). Caseness at phase 1 and phase 2 was then compared using a two-sample test of proportions for each mental health/alcohol misuse outcome.

4.9 Statistical methods and software

Statistical analysis are performed using the software package STATA, version 11 (StataCorp, 2009). Frequencies and cross tabulations of variables provide descriptive statistics. Logistic regression was used to examine most associations between independent variables and outcomes, and adjusted models were generated to investigate potential confounding effects. In some cases, due to the distribution of the outcome variable, Poisson regression or negative binomial regression has been used (Gardner et al., 1995). Also certain outcomes were measured by ranking, rather than a categorical or parametric measure (e.g. deprivation indices); such outcomes are analysed using nonparametric tests of medians (as described above, Chapter 4.5.2).

The original cohort has had both sample and response weights calculated. Since the sample in this thesis does not reflect the original sampling strategy, sample weights are not used; only response weights are used to take account of non-random response using appropriate survey commands (svy). These response weights were generated as part of the main cohort study, and defined as the inverse probability of responding (once sampled), according to factors associated with response¹⁵.

4.10 A note on the structure and interpretation of data tables in this thesis

This thesis includes numerous tables which contain odds ratios for associations between numerous independent factors and the dependent factor of interest. For ease of readability, adjusted models are presented in a single column. Within these columns, odds ratios for factors which form part of the model are adjusted for the other factors in

¹⁵ These were sex, rank, age, whether a regular or a reserve, sample (follow-up, HERRICK, or replenishment) and the interaction between regular/reserve and sample.

the model; odds ratios for independent factors which are not part of the model are presented as adjusted according to the model (but not adjusted for other factors). For example, in Table 10-5, the model is adjusted for PEV, rank, method of leaving, length of service, relationship status, having children, and time after leaving. Thus the association with PEV is presented as adjusted for those other factors; the effect of Service arm, a factor not among those being adjusted for, is adjusted for the listed factors but not any others. The final column of that table follows the same pattern, except that associations are also adjusted for taking resettlement.

4.11 Power analysis

Power was calculated comparing the subgroup who were known to have taken at least some resettlement (n=1,215) with those who were entitled but did not (n=393). Two-tailed z-tests for the difference between two independent proportions were performed for certain outcome variables, as given below, for a target α of 0.05. Analysis was performed using the package GPower 3 (Faul et al., 2007). Results for relevant outcome variables whose proportions in the population are already known are given in Table 4-20.

Table 4-20 Power analysis of selected outcome variables

Variable	Difference tested	Power
Employment	10% drop from 90% (lower threshold for MOD post-resettlement employment) for those without resettlement	99.78%
Alcohol misuse	5% difference either side of known mean (13% (Fear et al., 2010)) , i.e. 8% for resettled cohort and 18% for those not receiving resettlement	99.96%
Common mental disorders	5% difference either side of known mean (19.7% (Fear et al., 2010)) , i.e. 14.7% for resettled cohort and 24.7% for those not receiving resettlement	99.13%
Post-traumatic stress symptoms	Doubling of risk for those without resettlement, from cohort proportion of 4% (Fear et al., 2010) to 8%.	84.89%

4.12 Summary

This chapter describes the source of data for this thesis, explains how each variable used in the following chapters have been constructed, and outlines the strategy for analysis of each outcome. Following chapters are concerned with my findings, followed by a discussion in the final chapter.

Chapter 5 Official resettlement records

Having observed the questionnaire responses regarding individuals' entitlement to and use of the resettlement process, I had some concerns regarding the reliability of the responses. Additionally, it was desirable to gain additional depth of knowledge on the resettlement training activities undertaken by respondents. Thus I requested official resettlement records, in order to make a comparison with questionnaire responses and obtain further information (described in Chapter 4.3).

With a return rate of 60.8% (45 records of 74 requested) of records requested from the RAF, there were some records that could not be found. RAF personnel providing the records could not give definitive answers as to why the missing records could not be found, but speculated that most were for individuals who had received medical discharges, while others did not engage with resettlement provision as they had already found jobs.

5.1 Comparison with responses and imputed values

Main reasons to obtain these additional data were to fill missing responses, solve conflicting responses, and determine whether imputations regarding resettlement were accurate. For these reasons, the records requested were primarily those with missing and/or conflicting responses regarding resettlement. (Thus, records requested represent “worst-case scenarios” – another reason why response rates may have been low.) Table 5-1 compares questionnaire responses, predicted values arising from questionnaire responses, and information from official records regarding entitlement to resettlement.

Table 5-1 Comparison of questionnaire resettlement responses, values predicted from questionnaire responses, and official records with regards to entitlement to resettlement

<i>Questionnaire response</i>	<i>Predicted value from questionnaire responses</i>	<i>Official records indicate entitled</i>	<i>Official records indicate not entitled</i>	<i>Official records did not give clear indication</i>
Missing	Entitled	33	0	3
	Not entitled	1	1	1
	Missing	3	0	0
No entitlement	Entitled	0	1	1
Entitled	Entitled	1	0	0

As can be seen in Table 5-1, most imputations made with regard to entitlement were accurate. Table 5-2 compares questionnaire responses, imputations, and official data as to taking resettlement. For the purposes of this table, “records indicate took resettlement” includes engaging with any CTP activity and/or re-training activity; those who only attended regiment-level interviews are not included.

Table 5-2 Comparison of resettlement response, imputed values, and official records as regards taking resettlement

<i>Questionnaire response</i>	<i>Predicted value from questionnaire responses</i>	<i>Official records indicate took resettlement</i>	<i>Official records indicate did not take resettlement</i>	<i>Official records did not give clear indication</i>
Missing	Took resettlement	8	0	0
	Did not take resettlement	0	2	0
	Missing	24	5	2
Did not take resettlement	Did not take resettlement	1	1	0
Took resettlement	Did take resettlement	2	0	0

Table 5-2 shows that, where I made imputations as to whether an individual took resettlement, those imputations were largely accurate. However, among those whose

questionnaire responses as to whether they took resettlement were missing, the majority (24 of 31) had undertaken some resettlement activities; this raises the issue that analyses of the effect of resettlement elsewhere in this thesis may exclude some who did take resettlement but did not report having done so. As these individuals are coded as “missing” and hence are not included in the analyses, this observation does not mean that any findings are not correct, only that there has been a loss of power in the analysis. Of 1,474 entitled to resettlement, only 86 (5.8%) were categorised as “missing” for taking resettlement, so this is only a small loss.

Table 5-3 compares questionnaire responses, imputed values, and official records for receiving vocational training. An individual was coded as having taken retraining according to official records if they had undertaken any training, civilian attachment, or qualification according to their resettlement record.

Table 5-3 Comparison of resettlement response, imputed values, and official records as regards taking retraining

<i>Questionnaire response</i>	<i>Predicted value from questionnaire responses</i>	<i>Official records indicate took retraining</i>	<i>Official records indicate did not take retraining</i>	<i>Official records did not give clear indication</i>
Missing	Missing	0	0	2
Did not take vocational training	Did take retraining	1	0	0
	Did not take retraining	18	11	0
Took vocational training	Did take retraining	7	0	0
	Missing	1	0	0
Not applicable	Did not take retraining	3	2	0

It can be seen from Table 5-3 that vocational training is the most problematic area of resettlement responses. Of those who responded in the questionnaire that they did not

take vocational training, and were codified as such in the cleaned data, more than half (18 as against 11) had, in fact, undertaken some training. This contradiction makes it impossible to have any confidence in the questionnaire responses as regard resettlement-related retraining.

5.2 Observations on other information arising from official records

Investigation of the official resettlement records reveals numerous sources of complication and inconsistency. The possibility of deferral of resettlement is one such complication; one individual had nothing on file except a note that they had deferred resettlement, while another had applied for certain training courses but then requested deferral; there is no information as to whether the individual actually attended at a later date. Partial paperwork is problematic elsewhere, with interview transcripts indicating that an individual was interested in applying for certain courses, and evidence that they were granted funding to attend, but no indication whether such courses were actually attended. To add further complication, one individual who was not entitled to resettlement nonetheless had attendance at a retraining course listed as a resettlement activity.

5.3 Implications for this thesis

These issues highlight the difficulties in generating a binary value for whether an individual received resettlement and vocational training, as well as indicating the difficulties in obtaining reliable information from both official records and self-reported questionnaires. Nonetheless the values derived from questionnaire responses for entitlement to resettlement, and taking resettlement, are sufficiently congruent with official records to be confident in using these variables throughout this thesis. I have no confidence in questionnaire responses regarding vocational training, so this variable will not be considered in this thesis.

Chapter 6 Descriptive statistics

This chapter will statistically describe my sample. It will not include descriptive statistics related to outcome variables – instead, these will be found in those chapters specific to each outcome domain (i.e. employment in Chapter 10, social exclusion in Chapter 11, and mental health and related outcomes in Chapter 12). Resettlement is dealt with separately in Chapter 8.

6.1 Sample demographics

6.1.1 Categorical variables

Table 6-1 shows the demographic and military composition of the veteran sample whose resettlement entitlement can be determined ($n = 1,711$). For comparison, still-serving regulars from the cohort from which the veteran sample was taken are presented (Fear et al., 2010).

Table 6-1 Description of the veteran sample and serving regulars from the overall cohort, by socio-demographics and military factors

<i>Category</i>	<i>No. in sample (n=1,711)</i>	<i>% of veteran sample¹⁶ (95% CI)</i>	<i>% of serving cohort¹⁷ (95% CI) (n = 6,551)</i>
Sex			
Male	1,537	90.6 (89.2-91.9)	91.0 (90.3-91.6)
Female	174	9.4 (8.1-10.8)	9.1 (8.4-9.8)
<i>Military factors</i>			
Service			
Royal Navy	269	15.0 (13.4-16.8)	11.4 (10.7-12.2)
Army/Royal Marines	1,065	63.8 (61.4-66.1)	68.6 (67.4-69.7)
Royal Air Force	377	21.2 (19.3-23.3)	20.0 (19.0-21.0)
Rank			
Commissioned Officer	311	14.4 (12.9-16.0)	16.9 (16.0-17.7)
NCO	1,033	58.4 (56.0-60.8)	53.5 (52.2-54.7)
Other rank	367	27.2 (24.9-29.6)	29.7 (28.5-30.9)
Deployment to HERRICK/TELIC			
Yes	948	57.4 (55.0-59.8)	75.0 (73.9-76.1)
No	763	42.6 (40.2-45.0)	25.0 (23.9-26.1)
Primary role			
Combat	330	25.4 (23.1-27.9)	26.6 (25.4-27.9)
Combat Support	169	11.8 (10.1-13.6)	15.3 (14.3-16.3)
Combat Services Support	919	62.8 (60.2-65.4)	58.1 (56.7-59.5)
<i>Post-military/current variables</i>			
Relationship status			
Single	329	20.4 (18.5-22.5)	26.5 (25.4-27.7)
Long-term relationship	1,381	79.6 (77.5-81.5)	73.5 (72.3-74.6)
Having Children			
Yes	826	49.4 (46.9-51.9)	43.5 (42.2-44.8)
No	785	50.6 (48.1-53.1)	56.5 (55.3-57.8)
Education			
O-levels or less	698	45.6 (43.1-48.1)	49.0 (47.8-50.3)
A-levels or more	925	54.4 (51.9-56.9)	51.0 (49.7-52.2)

¹⁶ Response weighted.

¹⁷ Regulars still in service at time of questionnaire completion, response weighted.

The veteran sample is composed mostly of males, NCOs, those who served in the Army, and those in long-term relationships. It is broadly similar in composition to those in the cohort who were still in service at time of questionnaire completion; one notable difference is that the veteran sample appears to have proportionately fewer members who have deployed. Other differences are that the veteran sample has more Navy and fewer Army members; more NCOs; fewer in a combat support role but more Combat Services Support personnel; fewer single personnel; and more with children.

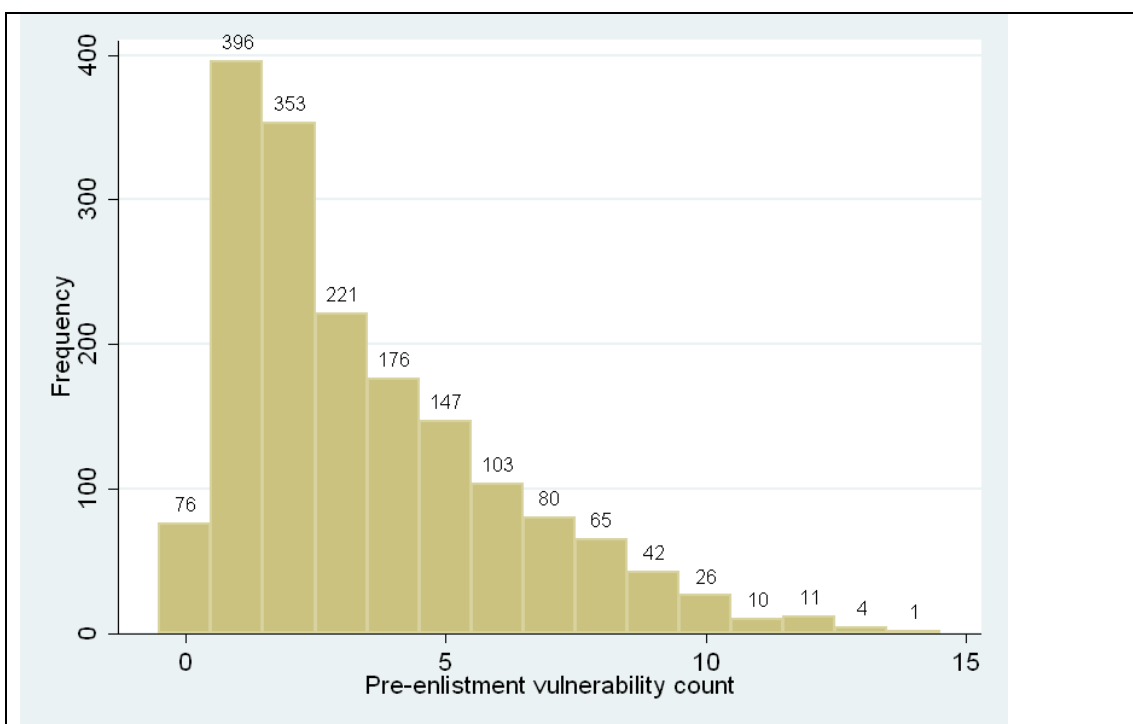
6.1.2 Non-categorical variables

As described in Methods (Chapter 4.4.1), pre-enlistment vulnerability (PEV) was utilised as a continuous variable. Responses to each question are shown in Table 6-2. Figure 6-1 shows the distribution of PEV scores.

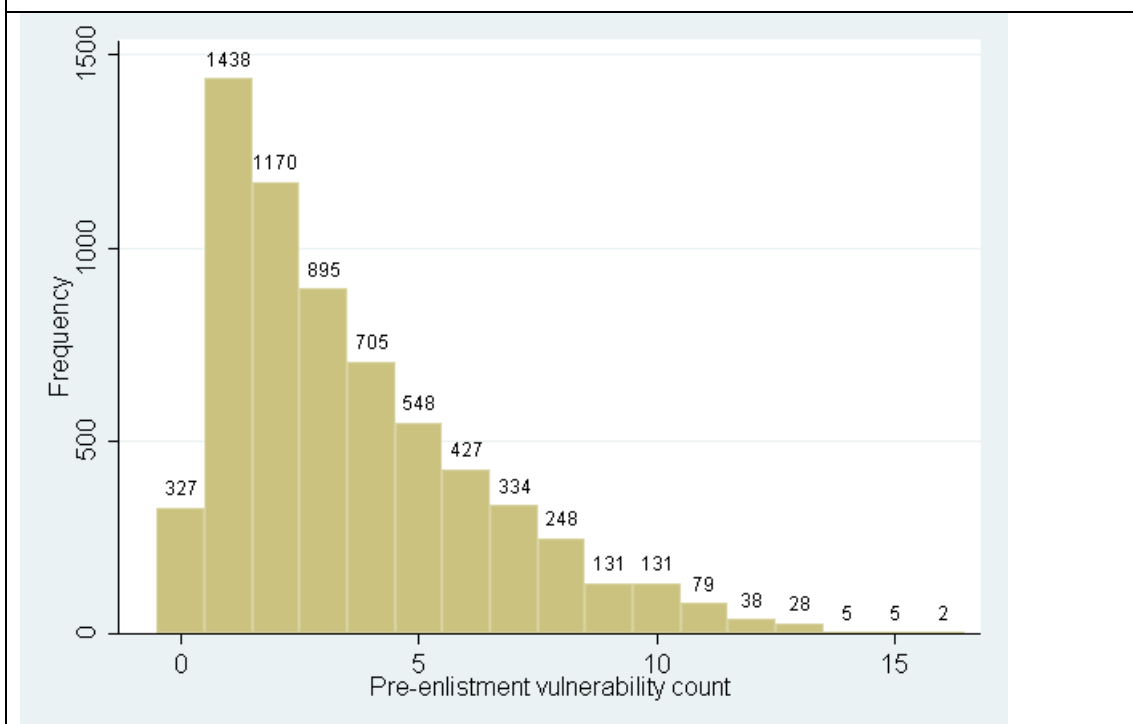
Table 6-2 Responses to PEV categories for veteran sample and serving regulars from the same cohort

Response		% in veteran sample, response-weighted (95% CI)	% in serving cohort, response-weighted (95% CI)
<i>Negative experiences</i>	Veterans endorsing		
Parents shout a lot	422	25.9 (23.9-28.1)	29.4 (28.4-30.4)
Playing truant	286	18.0 (17.8-19.8)	19.3 (18.4-20.2)
Seeing/hearing parents fight	284	17.2 (15.4-19.1)	17.6 (16.8-18.5)
Being hit by parent/caregiver	147	9.1 (7.8-10.6)	9.0 (8.4-9.6)
Parents with drug/alcohol problem	188	11.1 (9.6-12.7)	12.4 (11.7-13.2)
Time in care	35	2.1 (1.5-2.9)	2.9 (2.5-3.3)
Fighting at school	339	20.9 (19.0-23.0)	22.8 (21.9-23.8)
Suspended/expelled	241	16.7 (14.8-18.7)	19.2 (18.3-20.2)
Literacy problems	218	13.6 (12.0-15.4)	15.1 (14.3-16.0)
Trouble with police	511	31.9 (29.7-34.3)	35.3 (34.2-36.3)
<i>Positive experiences (negatively coded)</i>	Veterans <u>not</u> endorsing¹⁸		
Coming from a close family	334	19.3 (17.5-21.3)	21.6 (20.7-22.6)
Feeling valued by family	240	14.4 (12.7-16.2)	14.9 (14.1-15.7)
Family member to talk to	424	24.4 (22.4-26.5)	22.2 (21.3-23.2)
Family do things together	357	20.7 (18.9-22.8)	21.8 (20.9-22.8)
Mentor	225	14.1 (12.4-15.9)	15.1 (14.3-15.9)
Activity giving pride	353	20.9 (19.0-23.0)	19.7 (18.8-20.6)

¹⁸ As these positive experiences are negatively-coded as 1.



PEV scores in veteran sample

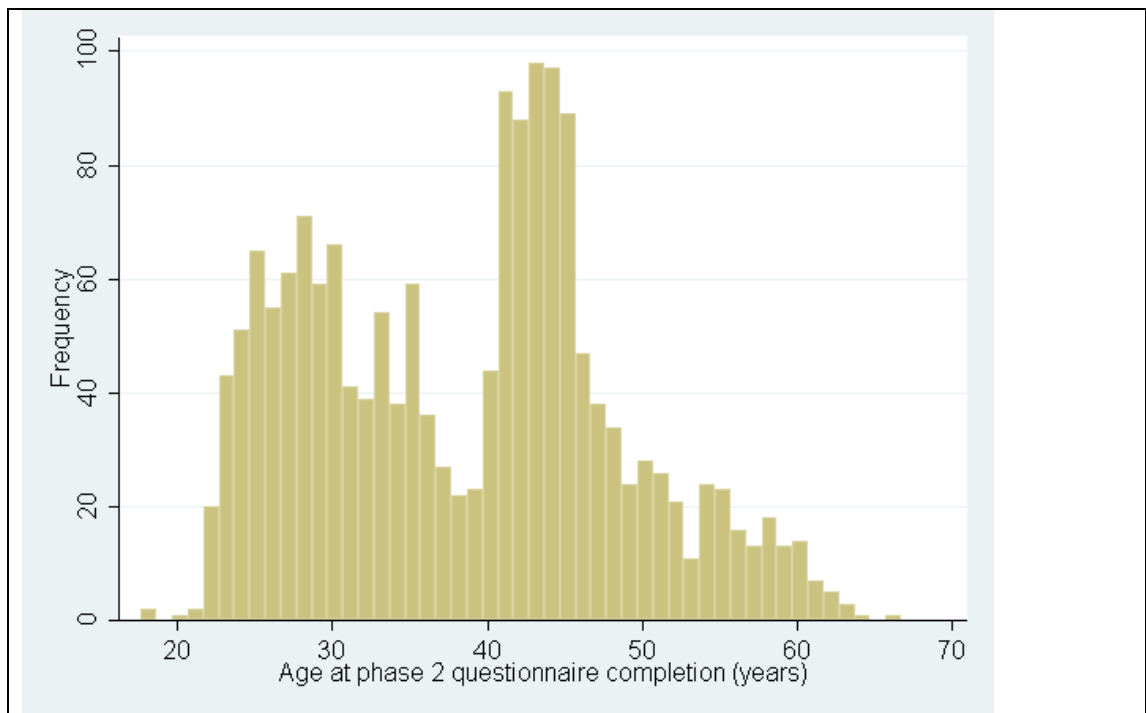


PEV scores in serving regulars in cohort

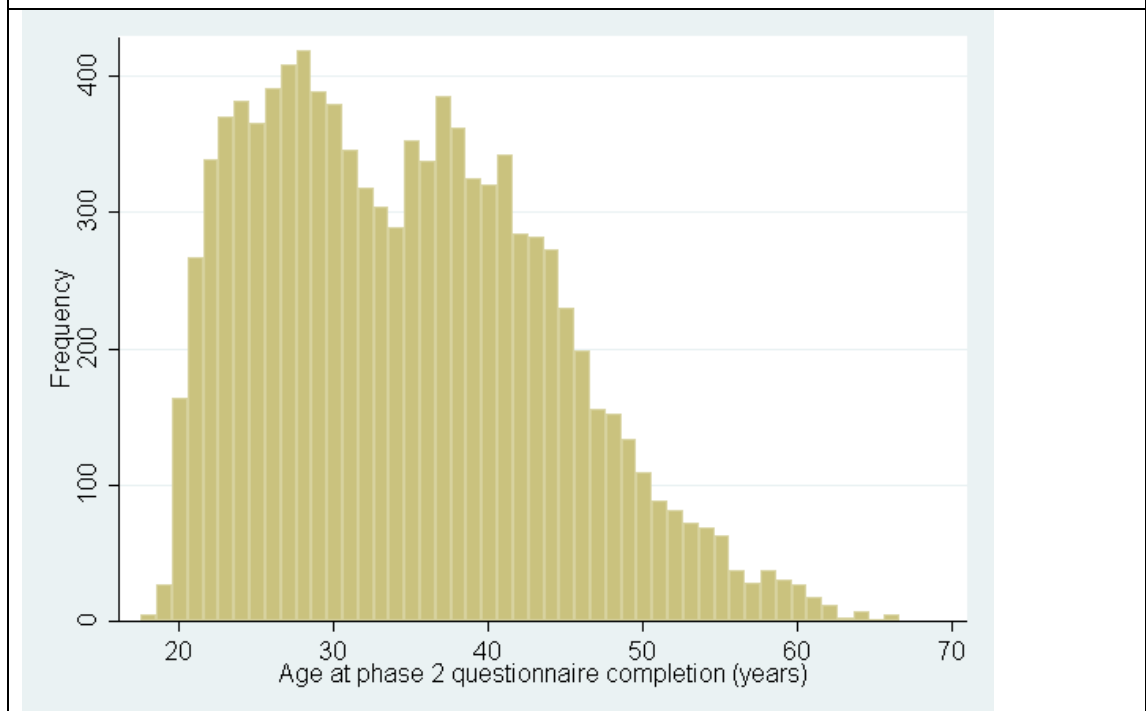
Figure 6-1 Distribution of pre-enlistment vulnerability scores

Relatively few respondents had a PEV score of 0 (Figure 6-1), but otherwise the distribution is Poisson-like, and similar in both ex-Service and serving samples.

Figure 6-2 shows that age at questionnaire completion is bimodally distributed, with peaks in the late-twenties and mid-forties. The same peaks are seen among the serving cohort, though they are more dispersed.



Veteran sample



Serving regulars in cohort

Figure 6-2 Distribution of age at questionnaire completion among veterans and still-serving regulars

This bimodal distribution is partly explained by the distribution of length of service (Figure 6-3). Figure 6-3 shows that there are peaks around the end of the basic term of

service and the “full term” of 22 years (for those who are not commissioned officers; see Chapter 6.2 below). A similar, though again broader, distribution is seen among serving personnel in the cohort.

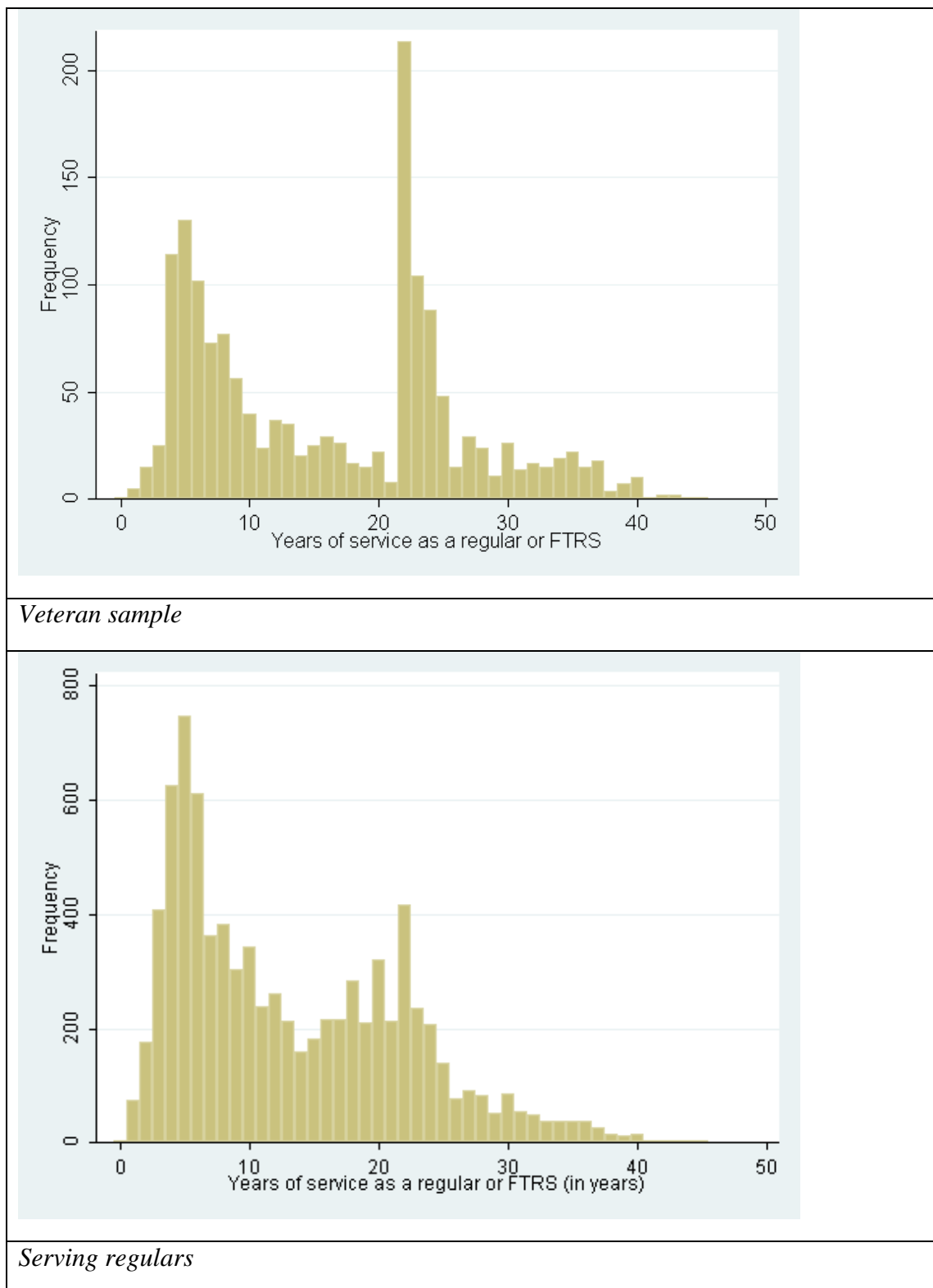


Figure 6-3 Distribution of length of service among veterans and still-serving regulars

Figure 6-4 shows that most personnel left 3 years or less before filling the questionnaire.

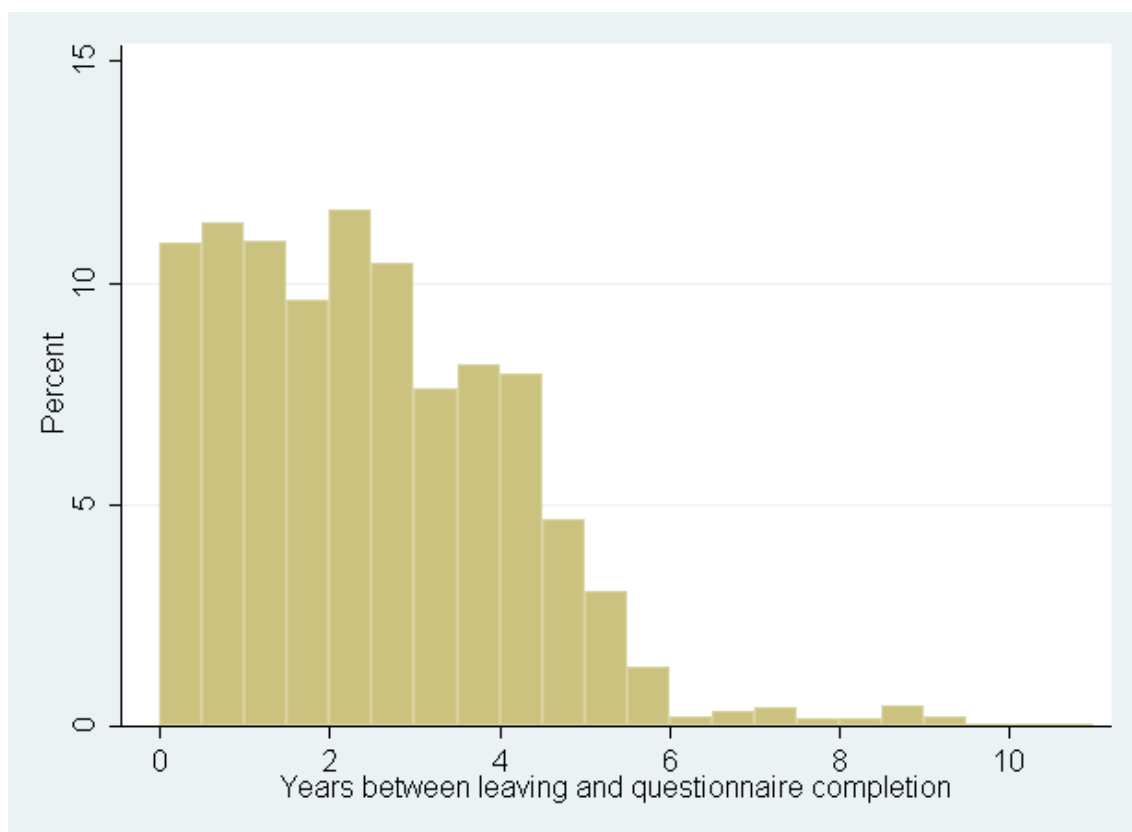


Figure 6-4 Distribution of time after leaving

6.2 Distribution by rank

6.2.1 Categorical variables

Officers are different from other ranks, generally coming from different backgrounds and being trained for leadership and command roles rather than direct combat and technical support roles. Differences in rank can affect health outcomes (MacLean and Edwards, 2010), and different ranks experience varying levels of job strain while in service (Fear et al., 2009). Table 6-3 shows how each socio-demographic/military characteristic is distributed by rank in the ex-Service sample.

Table 6-3 Demographics of sample by rank (includes response-weighted χ^2)¹⁹

Category	Officers (%) (n=311)	NCOs (%) (n=1,033)	Other ranks (%) (n=367)	Test for difference between groups
Pre-enlistment factors				
Sex				$\chi^2 = 0.58$ (2 d.f.), p = 0.726
Male	284 (91.7%)	926 (90.2%)	327 (90.9%)	
Female	27 (8.3%)	107 (9.8%)	40 (9.1%)	
Military factors				
Service				$\chi^2 = 8.60$ (4 d.f.), p = 0.074
Royal Navy	60 (18.7%)	151 (14.0%)	58 (15.1%)	
Army/Royal Marines	181 (59.0%)	667 (66.4%)	217 (60.8%)	
Royal Air Force	70 (22.3%)	215 (19.7%)	92 (24.1%)	
Deployment to HERRICK/TELIC				$\chi^2 = 14.16$ (2 d.f.), p = 0.001
Yes	149 (49.3%)	566 (56.6%)	233 (63.6%)	
No	162 (50.7%)	467 (43.5%)	134 (36.4%)	
Primary role				$\chi^2 = 72.24$ (4 d.f.), p < 0.001
Combat	69 (30.0%)	146 (18.1%)	115 (39.0%)	
Combat Support	42 (17.2%)	100 (11.7%)	27 (9.1%)	
Combat Services Support	130 (52.8%)	621 (70.2%)	168 (52.0%)	
Post-service/current factors				
Relationship status				$\chi^2 = 27.42$ (2 d.f.), p < 0.001
Single	42 (13.9%)	184 (18.3%)	103 (28.4%)	
Long-term relationship	269 (86.1%)	849 (81.7%)	263 (71.6%)	
Having Children				$\chi^2 = 64.67$ (2 d.f.), p < 0.001
Yes	126 (43.7%)	569 (57.6%)	131 (35.0%)	
No	161 (56.3%)	403 (42.4%)	221 (65.0%)	
Education				$\chi^2 = 179.47$ (2 d.f.), p < 0.001
O-levels or less	29 (9.5%)	448 (46.0%)	221 (63.3%)	
A-levels or more	266 (90.5%)	523 (54.0%)	136 (36.7%)	

¹⁹ Percentages are response weighted and rounded to one decimal point (and hence may not sum to 100%). Numbers may not add up to expected total due to missing data.

Table 6-3 shows that gender was evenly spread between ranks. The Army had more NCOs than the other Services, but the difference between Service arms was not significant (though it was borderline: $p = 0.074$). Higher percentages of NCOs were in Combat Services Support roles than either officers or other ranks, while a higher percentage of officers were in Combat Support roles and a higher percentage of other ranks were in combat roles. A higher proportion of other ranks than NCOs have deployed to HERRICK/TELIC, while a lower proportion of officers have deployed.

A higher percentage of officers were in long-term relationships than NCOs or other ranks. However, the rank group where the highest percentage had children were NCOs. Officers generally show higher educational attainment, with over 90% educated to A-level or higher, whereas NCOs were almost evenly split between education groups and the minority of other ranks had A-level or better education.

6.2.2 Non-categorical variables

Mean PEV scores for rank groups are shown in Table 6-4. While all rank groups have more individuals with scores at or below the median, there is a significant difference between ranks, with officers have a higher proportion below or equal to the median.

Table 6-4 Median PEV scores and test of medians for rank groups

<i>Rank</i>	<i>Median PEV score (25%/75% quartiles)</i>	<i>Number less than or equal to median</i>	<i>Number greater than median</i>	<i>p-value for test of medians</i>
Officers	2 (1/4)	231	80	<0.001
NCOs	3 (2/5)	611	422	
Other ranks	3 (2/6)	204	163	

Figure 6-5 shows how length of service is distributed by rank. Other ranks peak sharply around the basic term of service. Length of service for NCOs is bimodal, with peaks around the end of the basic term of service and around the “full term” for NCOs (i.e. 22 years, often with slightly more due to time added for training etc.; those without commissions can usually only serve for longer by becoming a commissioned officer via Late Entry (Ministry of Defence, 2009c)). Length of service for officers is more evenly distributed across the range, up to around 40 years of service.

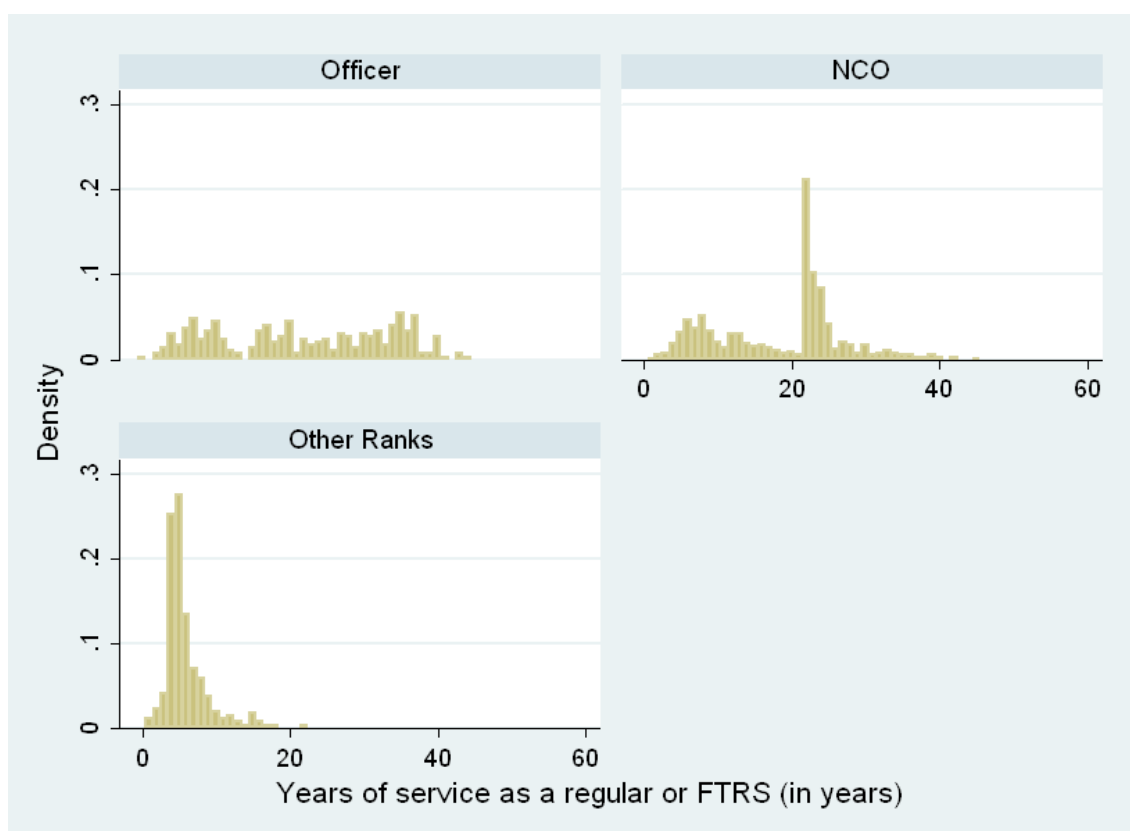


Figure 6-5 Distribution of length of service by rank

6.3 Distribution by Service arm

6.3.1 Categorical variables

The different Services which make up the UK Armed Forces have different specialisations, training, and cultures (Sundin et al., 2010). The distributions of the socio-demographic and military factors are shown by Service in Table 6-5.

Table 6-5 Distribution of socio-demographic factors by Service (includes response-weighted χ^2 tests)

Category	Royal Navy (%) (n=269)	Army/Royal Marines (%) (n=1,065)	Royal Air Force (%) (n=377)	Test for difference between groups
Pre-enlistment factors				
Sex				
Male	226 (84.8%)	972 (92.2%)	339 (90.1%)	$\chi^2 = 13.56$ (2 d.f.), p < 0.001
Female	43 (15.2%)	93 (7.8%)	38 (9.9%)	
Military factors				
Rank				
Officer	60 (18.0%)	181 (13.3%)	70 (15.1%)	$\chi^2 = 8.60$ (4 d.f.), p = 0.074
NCO	151 (54.6%)	667 (60.8%)	215 (54.1%)	
Other ranks	58 (27.5%)	217 (25.9%)	92 (30.8%)	
Deployment to HERRICK/TELIC				
Yes	103 (38.5%)	648 (63.4%)	197 (52.9%)	$\chi^2 = 56.34$ (2 d.f.), p < 0.001
No	166 (61.5%)	417 (36.6%)	180 (47.1%)	
Primary role				
Combat	3 (1.5%)	319 (37.2%)	8 (3.4%)	$\chi^2 = 212.86$ (4 d.f.), p < 0.001
Combat Support	19 (10.7%)	107 (12.0%)	43 (11.7%)	
Combat Services Support	164 (87.8%)	482 (50.8%)	273 (84.8%)	
Post-service/current factors				
Relationship status				
Single	54 (21.6%)	211 (20.7%)	64 (18.7%)	$\chi^2 = 0.92$ (2 d.f.), p = 0.655
Long-term relationship	215 (78.4%)	853 (79.3%)	313 (81.3%)	
Having Children				
Yes	120 (46.4%)	542 (51.2%)	164 (46.1%)	$\chi^2 = 3.70$ (2 d.f.), p = 0.162
No	133 (53.6%)	474 (48.8%)	178 (53.9%)	
Education				
O-levels or less	90 (38.4%)	473 (49.6%)	135 (38.7%)	$\chi^2 = 18.30$ (2 d.f.), p < 0.001
A-levels or more	165 (61.7%)	538 (50.4%)	222 (61.3%)	

There is a significant difference between Services as regards sex distribution, with the Navy having a higher percentage of females than other Services. There were also significant differences as regards role and deployment: those in the Army/Royal Marines have the highest percentage who have deployed, while those in the Royal Navy have the lowest. The Army/Royal Marines group have a higher percentage of former combat personnel than other Services, and also the highest percentage of those with lower educational attainment.

6.3.2 Non-categorical variables

Median PEV scores for Services are shown in Table 6-6. All Services have more individuals with scores at or below the median, but there is a significant difference between services. Ex-RAF and RN personnel have around twice as many individuals with scores at or below the median, while the Army/Marines only have around 30% more in the less than or equal group.

Table 6-6 Median PEV scores and test of medians by Service

<i>Rank</i>	<i>Median PEV score (25%/75% quartiles)</i>	<i>Number less than or equal to median</i>	<i>Number greater than median</i>	<i>p-value for test of medians</i>
Royal Navy	2 (1/4)	178	91	<0.001
Army/Royal Marines	3 (2/5)	604	461	
RAF	2 (1/4)	264	113	

Length of service shows the typical bimodal distributions for each Service (Figure 6-6).

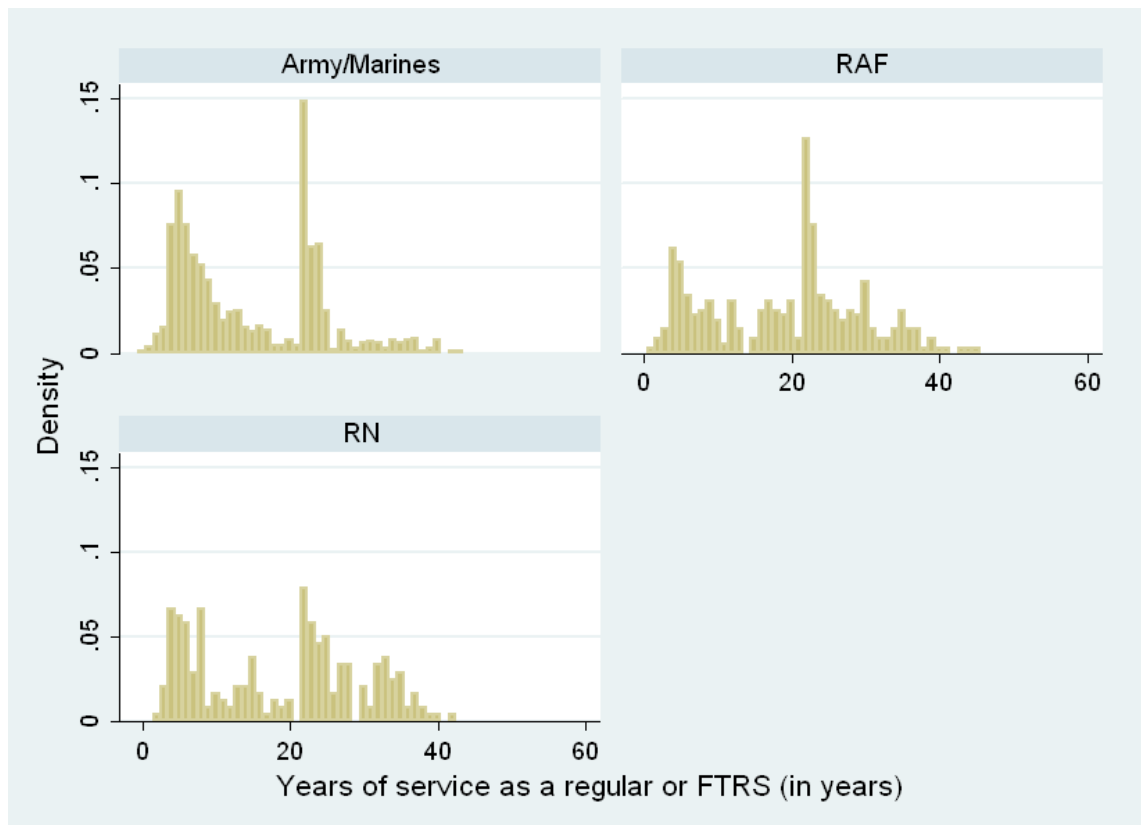


Figure 6-6 Distribution of length of service by Service

6.4 Method of leaving

The method by which the veteran has left the Services can affect their entitlement and access to resettlement provision. The majority of respondents left in a planned way (89.6%), with similar proportions leaving by Premature Voluntary Release (43.2%) and at the end of their term of service (42.8%) (Table 6-7). A minority left in an unplanned way (10.4%), most of these (109 of 173) due to medical discharges.

Table 6-7 Frequencies of methods of leaving Service

Method of leaving	Number of respondents (n=1,663) ²⁰	% of all respondents
End of service term/run out date	712	42.8
Premature Voluntary Release/signed off (i.e. applying to leave before term completion)	718	43.2
Voluntary redundancy	60	3.6
All planned leaving	1,490	89.6
Medical discharge	109	6.6
Administrative discharge	40	2.4
Temperamental unsuitability/SNLR	13	0.8
Disciplinary discharge	6	0.4
Compulsory redundancy	5	0.3
All unplanned leaving	173	10.4

²⁰ Excluding missing data (n = 82) and those in the “other” category (n = 10).

6.4.1 Factors associated with unplanned leaving

As method of leaving is crucial in determining entitlement to resettlement, and may also have other socio-economic consequences, logistic regression was used to determine which military and socio-demographic factors were associated with unplanned leaving. An adjusted model was produced; choice of adjusting factors was data-driven (Table 6-8).

Table 6-8 Socio-demographic and military factors associated with unplanned leaving

<i>Category (n = 1,663)</i>	<i>Unplanned leavers (%²¹) (n=173)</i>	<i>OR (95% CI)</i>	<i>Adjusted OR (95% CI)²²</i>
Total	173 (11.0)		
<i>Pre-enlistment variables</i>			
Sex			
Male	134 (9.7)	1	1
Female	39 (23.20)	2.82 (1.88-4.23)***	2.32 (1.44-3.74)**
Pre-enlistment vulnerability (per score)		1.13 (1.07-1.19)***	1.15 (1.09-1.23)***
<i>Military variables</i>			
Service arm			
Royal Navy	38 (15.7)	1.61 (1.06-2.43)*	1.54 (0.96-2.46)
Army/Royal Marines	102 (10.3)	1	1
RAF	33 (9.6)	0.92 (0.61-1.41)	1.06 (0.65-1.73)
Rank			
Officer	21 (7.1)	0.75 (0.45-1.22)	1.06 (0.63-1.78)
NCO	91 (9.3)	1	1
Other ranks	61 (16.3)	1.89 (1.32-2.71)***	1.42 (0.84-2.38)
Length of service (years)			
<4	12 (39.2)	4.55 (1.95-10.59)***	2.81 (1.05-7.50)*
>4-6	43 (12.4)	1.00 (0.63-1.57)	0.79 (0.47-1.32)
>6-14	45 (12.4)	1	1
>14-23	44 (9.6)	0.75 (0.48-1.16)	0.73 (0.45-1.19)
23+	17 (4.4)	0.32 (0.18-0.57)***	0.31 (0.16-0.61)**

²¹ Response weighted.

²² Adjusted for sex, PEV, Service arm, rank, length of service, relationship status and deployment to Iraq/Afghanistan. Education is not included in this model as commissioned officers are almost all educated to A-level or higher. The adjusted odds ratio for education is calculated without adjustment for rank.

<i>Category (n = 1,663)</i>	<i>Unplanned leavers (%²³) (n=173)</i>	<i>OR (95% CI)</i>	<i>Adjusted OR (95% CI)²⁴</i>
Role in parent unit			
Combat	34 (11.2)	1.09 (0.71-1.67)	1.14 (0.67-1.93)
Combat Support	19 (11.1)	1.08 (0.63-1.84)	1.07 (0.59-1.94)
Combat Services Support	89 (10.4)	1	1
Deployment to Iraq/Afghanistan			
Yes	81 (8.7)	1	1
No	92 (14.2)	1.75 (1.26-2.42)**	2.02 (1.38-2.96)***
Post-service/current variables			
Relationship status			
Single	51 (16.2)	1.82 (1.26-2.62)**	1.43 (0.95-2.14)
Long-term relationship	122 (9.6)	1	1
Having children			
Yes	84 (12.7)	1.24 (0.90-1.73)	1.51 (1.01-2.25)*
No	85 (10.4)	1	1
Education			
O-levels or less	95 (14.7)	1.90 (1.36-2.65)***	1.72 (1.20-2.46)**
A-levels or more	74 (8.3)	1	1

* $p < 0.05$

** $p < 0.01$

*** $p < 0.001$

Females are more prone to unplanned leaving than males, as are those with higher PEV, those who deployed to Iraq and/or Afghanistan and those who left before serving 4 years. The adjusted analysis indicated that the presence of children increased the odds of unplanned leaving. After adjustment, rank was not associated with method of leaving

²³ Response weighted.

²⁴ Adjusted for sex, PEV, Service arm, rank, length of service, relationship status and deployment to Iraq/Afghanistan. Education is not included in this model as commissioned officers are almost all educated to A-level or higher. The adjusted odds ratio for education is calculated without adjustment for rank.

(primarily due to adjustment for length of service), but those with lower educational attainment were more likely to leave in an unplanned fashion. Those leaving after 23 years were less likely to leave in an unplanned way.

It is possible that some females are being classified as unplanned leavers due to pregnancy²⁵: of 39 whose reason for leaving was “pregnancy”, 18 indicated an administrative discharge. When the analysis in Table 6-8 was repeated excluding those who indicated they left due to pregnancy, females were not more likely than males to be unplanned leavers (adjusted odds ratio 1.14, 95% confidence intervals 0.64-2.03, p-value = 0.665).

6.5 Summary

The veteran sample is similar to still-serving regulars in the original cohort; it largely consists of male non-commissioned officers from the Army, most of who left after a full term of service (i.e. 22 years). Officers largely had higher educational attainment and were more commonly in Combat Support roles. Other ranks made up a higher proportion of combat roles and those who had deployed, had higher PEV, and mostly left around the end of their basic term of service. There is a higher proportion of female veterans in the Navy than other Services, and the Navy has the lowest proportion who have deployed to recent conflicts; the Army has a higher percentage of veterans from a combat role and more who have deployed, more veterans of lower educational attainment, and has higher PEV scores than the other Services. Unplanned leavers are more likely to have higher PEV and lower educational attainment, and are less likely to have deployed to recent conflicts.

²⁵ Until 1991, women would be asked to leave the Armed Forces if they became pregnant. That year, tri-service maternity leave was introduced. Dandeker C and Segal MW. (1996) Gender Integration in Armed Forces: Recent Policy Developments in the United Kingdom. *Armed Forces & Society* 23: 29-47.

Chapter 7 Why personnel leave the Services

Before considering the process of leaving, post-service outcomes, and transition, I will consider why Services personnel leave service. This chapter analyses how military and socio-economic factors are related to why personnel in this sample chose to leave.

Reasons for choosing to leave military service

The literature on reasons for leaving an employing organisation in the civilian sector indicates that a range of factors are involved (Griffeth et al., 2000). Remuneration is important (Boxall et al., 2003), as is job dissatisfaction (Ingersoll et al., 2002) and the current state of the labour market (Hom and Kinicki, 2001; Reeskens and Oorschot, 2012). Also, conflict arising between job demands and family/personal commitments (Aryee et al., 1998; Porter and Ayman, 2010) must be taken into account. These considerations can all apply to Service leavers, who are leaving both a job and a distinct way of life.

The UK military, as an all-volunteer force, competes with employers in the civilian labour market, both to attract new recruits and retain those in service. The UK Armed Forces Pay Review Board (AFPRB), responsible for advising the Secretary of State for Defence on remuneration for UK Armed Forces Personnel, has a mandate to “*have regard for the need for the pay of the Armed Forces to be broadly comparable with pay levels in civilian life*” (Smith, 2011) – i.e. attempt to bring military pay scales in line with civilian equivalents. This not only ensures a reasonable income for personnel, but allows the military to compete (particularly for those with specialist skills, such as medical specialists) in the wider labour market. Notwithstanding the AFPRB framework, some Service personnel may leave voluntarily in anticipation of better pay and/or benefits elsewhere. Others might simply have a desire to try something new; civilians commonly transition between careers multiple times during their life (Krieshok

et al., 2009). The state of the external labour market may also affect the decision to leave or stay among military personnel (Steel, 1996).

The “up-or-out” military career structure provides another reason to leave: the hierarchical nature of military institutions ensures that only a given fraction of those at one level can progress to the next (Asch and Warner, 2001). If it becomes clear to an individual that he or she is unlikely to progress, this can act as an incentive to leave. Negative job-related factors may also motivate the decision to leave: poor working conditions, pay dissatisfaction, or thwarted ambitions.

Balancing the demands of work and family are a challenge for military personnel (as well as certain civilian occupations). One useful framework for analysing work/life balance is work-family conflict (WFC) (Frone et al., 1992), which takes account of the effect of stressors and sources of support of each domain (work and family) on the other (Ford et al., 2007). Time-based pressures, stress arising from work, and identification with one’s employment role can all give rise to work interference with family (WIF) (Adams et al., 1996; Byron, 2005; Greenhaus and Beutell, 1985). Family interference with work (FIW) can arise when household and child-care duties disrupt work routines (Byron, 2005). Family/spousal support can reduce FIW and enhance job satisfaction (Baltes and Heydens-Gahir, 2003), and affects retention in the military (Etheridge, 1987; Orthner, 1990).

Military life involves frequent changes of post (which may require a change in residence), and can involve being sent away on deployment. A sense of autonomy and control over one’s work may be hard to achieve in a “greedy institution” such as the military (Segal, 1986). Furthermore, the resulting irregular work patterns and limited job control can place strain on work/family balance (Keeton et al., 2007; Craig and Powell, 2011). As an individual ages and advances in their career, the demands made

upon them by the military can vary; in particular, marriage and children can have a large impact on their willingness to sacrifice their personal life in favour of their career.

7.1 Hypotheses

This chapter investigates reasons for leaving among voluntary leavers (i.e. those who left in a planned way, and did not indicate that they were leaving due to completion of service term), both to determine which reasons are most prevalent, and to determine which socio-demographic factors are associated with different reasons for leaving. Surveying Army personnel who had applied for Premature Voluntary Release showed that the leading reason was for opportunities outside the Army, followed by the impact of Army lifestyle on personal/domestic life, and then personal morale (Richardson, 2003). Consequently it is hypothesised that the most common reason for leaving will be anticipation of better civilian prospects, followed by WIF. Among those with families, the stringent career requirements of the military could make leaving increasingly attractive, and hence these are expected to be more motivated by WFC factors.

7.2 Analysis of reasons for leaving

Table 7-1 shows associations between the various categories of reason for leaving (as defined in Chapter 4.4.2) and military and socio-demographic factors.

Table 7-1 Socio-demographic and military factors associated with reasons for leaving voluntarily

<i>Socio-demographic/military variable</i>	<i>Number in sample²⁶ (n = 778)</i>	<i>Better civilian employment (n = 323, 41.5%): adjusted odds ratio²⁷ (95% CI)</i>	<i>Job dissatisfaction (n = 362, 46.5%): adjusted odds ratio²⁸ (95% CI)</i>	<i>WIF (n = 526, 67.6%): adjusted odds ratio²⁹ (95% CI)</i>	<i>FIW (n = 223, 28.7%): adjusted odds ratio³⁰ (95% CI)</i>	<i>Deployment factors (n = 204, 26.2%): adjusted odds ratio³¹ (95% CI)</i>
Sex						
Male	688	1	1	1	1	1
Female	90	0.39 (0.22-0.68)**	0.90 (0.54-1.48)	0.83 (0.49-1.41)	0.92 (0.56-1.53)	0.81 (0.45-1.45)
Military factors						
Service						
Royal Naval	146	0.81 (0.51-1.28)	0.91 (0.57-1.43)	0.70 (0.43-1.15)	2.43 (1.56-3.80)***	1.34 (0.77-2.31)
Army/Royal Marines	430	1	1	1	1	1
RAF	202	0.83 (0.58-1.20)	0.94 (0.62-1.43)	0.71 (0.47-1.08)	1.06 (0.71-1.58)	1.11 (0.69-1.78)

²⁶ Total of those leaving voluntarily. Numbers may not add up to 778 due to missing data.

²⁷ Adjusted for sex, education, and rank. The adjusted odds ratio for education does not include officers, due to co-linearity; almost all officers have A-level education or better.

²⁸ Adjusted for education, length of service, Service arm, and rank. Adjusted odds ratio for education excludes officers as above.

²⁹ Adjusted for relationship status, having children, length of service, and Service arm. Adjusted odds ratio for education excludes officers as above.

³⁰ Adjusted for having children and Service arm. Adjusted odds ratio for education excludes officers as above.

³¹ Adjusted for length of service, rank and deployment to Iraq/Afghanistan. Adjusted odds ratio for education excludes officers as above.

<i>Socio-demographic/military variable</i>	<i>Number (total n = 778)</i>	<i>Better civilian employment (n = 323, 41.5%): adjusted odds ratio (95% CI)</i>	<i>Job dissatisfaction (n = 362, 46.5%): adjusted odds ratio (95% CI)</i>	<i>WIF (n = 526, 67.6%): adjusted odds ratio (95% CI)</i>	<i>FIW (n = 223, 28.7%): adjusted odds ratio (95% CI)</i>	<i>Deployment factors (n = 204, 26.2%): adjusted odds ratio (95% CI)</i>
Rank						
Officer	149	1.84 (1.22-2.77)**	0.92 (0.59-1.44)	1.23 (0.77-1.98)	1.37 (0.88-2.13)	0.64 (0.38-1.08)
NCO	405	1	1	1	1	1
Other ranks	224	1.59 (1.11-2.27)*	1.72 (1.08-2.72)*	0.71 (0.44-1.15)	1.25 (0.85-1.86)	0.81 (0.50-1.32)
Length of service as a regular (years)						
<4	18	0.40 (0.13-1.29)	1.44 (0.44-4.69)	0.32 (0.11-0.93)*	0.73 (0.21-2.50)	0.20 (0.03-1.60)
>4-6	215	1.02 (0.65-1.60)	1.33 (0.86-2.06)	0.66 (0.43-1.02)	1.16 (0.74-1.80)	1.01 (0.63-1.63)
>6-14	246	1	1	1	1	1
>14-23	112	1.05 (0.64-1.74)	2.01 (1.21-3.36)**	0.49 (0.28-0.86)*	0.88 (0.51-1.53)	1.27 (0.75-2.15)
23+	133	0.70 (0.44-1.13)	2.22 (1.34-3.67)**	0.28 (0.17-0.48)***	1.00 (0.59-1.69)	0.95 (0.53-1.71)
Role in parent unit						
Combat	160	0.94 (0.63-1.39)	1.00 (0.64-1.55)	0.72 (0.45-1.17)	1.37 (0.86-2.16)	0.88 (0.55-1.41)
Combat Support	75	1.27 (0.74-2.19)	1.11 (0.63-1.97)	1.14 (0.61-2.15)	0.87 (0.48-1.58)	0.59 (0.30-1.17)
Combat Services Support	426	1	1	1	1	1

<i>Socio-demographic/military variable</i>	<i>Number (total n = 778)</i>	<i>Better civilian employment (n = 323, 41.5%): adjusted odds ratio (95% CI)</i>	<i>Job dissatisfaction (n = 362, 46.5%): adjusted odds ratio (95% CI)</i>	<i>WIF (n = 526, 67.6%): adjusted odds ratio (95% CI)</i>	<i>FIW (n = 223, 28.7%): adjusted odds ratio (95% CI)</i>	<i>Deployment factors (n = 204, 26.2%): adjusted odds ratio (95% CI)</i>
Deployment on HERRICK/TELIC						
Yes	299	1	1	1	1	1
No	479	1.06 (0.77-1.45)	0.78 (0.56-1.09)	0.91 (0.63-1.32)	1.03 (0.74-1.45)	0.25 (0.16-0.38)***
Post-service/current variables						
Relationship status						
Single	182	1.10 (0.76-1.60)	1.29 (0.88-1.89)	0.55 (0.37-0.83)*	0.89 (0.59-1.33)	0.97 (0.64-1.47)
Long-term relationship	595	1	1	1	1	1
Having children						
Yes	460	0.84 (0.60-1.17)	0.86 (0.60-1.23)	1.75 (1.18-2.58)*	1.64 (1.18-2.30)**	1.15 (0.77-1.72)
No	279	1	1	1	1	1
Education						
O-levels or less	294	0.58 (0.41-0.82)**	0.63 (0.44-0.90)*	0.71 (0.48-1.05)	1.33 (0.90-1.97)	1.24 (0.83-1.85)
A-levels or more	455	1	1	1	1	1

* p < 0.05 ** p < 0.01 *** p < 0.001

Overall, WIF was the most frequently endorsed reason for leaving (67.6%). Officers were more likely than NCOs or other ranks to leave in anticipation of better civilian employment. Those with shorter length of service (<4 years) were less likely to leave due to WIF compared with those serving 6-14 years, while those with longer service (>14 years) were more likely to leave due to job dissatisfaction compared with those serving 6-14 years but less likely to leave due to WIF. Deployment had no effect on leaving for career-related or family reasons. Service arm had little effect on reasons for leaving (the only effect found was that Naval Services personnel were more likely to leave due to FIW).

Females are less likely than males to leave in anticipation of better career prospects outside the military. Single personnel were less likely to leave due to WIF. Having children was associated with choosing to leave for both work-family conflict domains. Those with lower educational attainment (i.e. O-levels or less) were less likely than those with A-levels or more to leave due to better prospects elsewhere or dissatisfaction with their military career.

The analysis of the effect of having children was stratified by sex (results not shown). In this stratified analysis, having children was associated with lower likelihood of leaving due to job dissatisfaction among females with children, while having children still had no significant impact on leaving for better civilian prospects. By contrast, FIW was significantly associated with having children in both sexes, but WIF was only associated with having children among males.

7.3 Summary

As this chapter demonstrates, most personnel leave the Services in a planned way. For those who choose to leave, that choice is influenced by a number of factors. The choice to leave is partly the result of job dissatisfaction and anticipation of a better career in the civilian sector. However, the largest factor motivating voluntary leaving is work interference with family.

Chapter 8 Resettlement

This chapter discusses the resettlement variables defined in Chapter 4.4.3. It will discuss how being entitled to, and taking, resettlement is distributed across different socio-demographic and military groupings.

8.1 Entitlement to resettlement

Table 8-1 shows the odds ratios of being entitled to resettlement within different socio-demographic and military factors (as described in Chapter 4.4.3, this excludes those individuals where it was not possible to determine whether they had any entitlement to resettlement). Note that certain factors which are included in subsequent chapters (namely length of service and method of leaving) are not included as these directly determine entitlement to resettlement.

Table 8-1 Associations between socio-demographic and military factors and entitlement to resettlement

<i>Category (n = 1,711)</i>	<i>Entitled (n)</i>	<i>% entitled³²</i>	<i>Unadjusted OR (95% CI)</i>	<i>Adjusted OR³³ (95% CI)</i>
Total	1,487	83.1		
<i>Pre-enlistment variables</i>				
Sex				
Male	1,356	84.3	1	1
Female	131	72.4	0.49 (0.33-0.72)***	0.28 (0.16-0.48)***
Pre-enlistment vulnerability (per count)			0.94 (0.89-0.99)*	0.95 (0.89-1.01)
<i>Military variables</i>				
Service arm				
Royal Navy	241	86.4	1.40 (0.90-2.17)	2.12 (1.03-4.35)*
Army/Royal Marines	912	82.0	1	1
RAF	334	84.3	1.18 (0.82-1.71)	1.34 (0.82-2.21)
Rank				
Officer	299	95.9	1.39 (0.72-2.67)	1.80 (0.78-4.16)
NCO	983	94.4	1	1
Other rank	205	52.3	0.07 (0.05-0.09)***	0.08 (0.05-0.12)***
Primary role				
Combat	255	71.6	0.37 (0.26-0.52)***	0.45 (0.29-0.71)**
Combat support	150	84.8	0.81 (0.47-1.38)	0.72 (0.38-1.38)
Combat support services	825	87.4	1	1
Deployment on HERRICK/TELIC				
Yes	805	81.1	0.70 (0.52-0.95)*	0.99 (0.66-1.48)
No	682	85.9	1	1

³² Response weighted.

³³ Adjusted for sex, pre-enlistment vulnerability, rank, role, deployment to TELIC/HERRICK, relationship status, and having children. Does not include adjustment for education, due to co-linearity with rank.

<i>Category (n = 1,711)</i>	<i>Entitled (n)</i>	<i>% entitled</i>	<i>Unadjusted OR (95% CI)</i>	<i>Adjusted OR (95% CI)</i>
<i>Post-service/current variables</i>				
Relationship status				
Single	265	75.7	0.55 (0.39-0.76)***	0.98 (0.61-1.55)
Long-term relationship	1,221	85.0	1	1
Has children				
Yes	747	87.8	2.05 (1.51-2.78)***	1.40 (0.93-2.09)
No	649	77.8	1	1
Education³⁴				
O-levels or less	541	76.0	0.57 (0.42-0.77)***	0.86 (0.57-1.29)
A-levels or more	577	84.8	1	1

* p < 0.05 ** p < 0.01 *** p < 0.001

Univariable analyses show that there are associations in all factors (except Service arm) with entitlement. An adjusted model was generated by controlling for each factor associated with entitlement under univariable analyses. Following this analysis, being a member of the Royal Navy was associated with entitlement to resettlement (primarily due to adjustment for rank). Deployment was not significant after adjustment for rank and role. Relationship status and having children were not significant after adjustment for rank.

8.2 Taking resettlement

Not all of those entitled to resettlement take it. Table 8-2 shows the associations between taking resettlement and socio-demographic and military factors, for those who are entitled to resettlement and of whom it can be determined whether or not they undertook at least some resettlement.

³⁴ Excludes commissioned officers, as almost all officers have high education and hence education is effectively co-linear with rank for officers.

Table 8-2 Associations between socio-demographic and military factors and taking resettlement

<i>Category (n = 1,390)</i>	<i>Took resettlement (%³⁵)</i>	<i>Unadjusted OR (95% CI)</i>	<i>Adjusted OR³⁶ (95% CI)</i>
Total	1,215 (87.3)		
<i>Pre-enlistment variables</i>			
Sex			
Male	1,121 (87.8)	1	1
Female	94 (80.3)	0.57 (0.34-0.93)*	0.68 (0.39-1.17)
Pre-enlistment vulnerability (per count)		0.94 (0.89-1.00)	0.95 (0.89-1.01)
<i>Military variables</i>			
Service			
Royal Navy	193 (85.3)	0.84 (0.54-1.29)	1.08 (0.66-1.77)
Army/Royal Marines	755 (87.4)	1	1
RAF	267 (88.2)	1.07 (0.71-1.62)	1.07 (0.70-1.64)
Rank			
Officer	247 (87.2)	0.84 (0.56-1.26)	0.80 (0.52-1.24)
NCO	822 (89.1)	1	1
Other rank	146 (79.9)	0.49 (0.32-0.75)**	0.50 (0.32-0.79)**
Primary role			
Combat	205 (85.6)	0.86 (0.55-1.32)	0.88 (0.56-1.38)
Combat support	128 (89.3)	1.20 (0.68-2.13)	1.28 (0.68-2.41)
Combat support services	673 (87.4)	1	1
Deployment on HERRICK/TELIC			
Yes	662 (87.9)	1.13 (0.82-1.57)	1.11 (0.79-1.56)
No	553 (86.5)	1	1
Length of service (years)		1.01 (1.00-1.03)	0.98 (0.96-1.00)
Method of leaving			
Planned	1,086 (89.2)	1	1
Unplanned	73 (63.5)	0.21 (0.14-0.33)***	0.23 (0.15-0.36)***

³⁵ Response weighted.

³⁶ Adjusted for sex, rank, method of leaving, and relationship status. Does not include adjustment for education, due to co-linearity with rank.

<i>Category (n = 1,390)</i>	<i>Took resettlement (n)</i>	<i>Unadjusted OR (95% CI)</i>	<i>Adjusted OR (95% CI)</i>
<i>Post-service/current variables</i>			
Relationship status			
Single (inc. divorced, widowed)	196 (80.9)	0.54 (0.37-0.79)**	0.60 (0.41-0.89)*
Long-term relationship	1,018 (88.7)	1	1
Has children			
Yes	613 (87.7)	1.10 (0.79-1.54)	0.86 (0.58-1.26)
No	525 (86.6)	1	1
Education³⁷			
O-levels or less	425 (84.6)	0.67 (0.46-0.97)*	0.79 (0.53-1.16)
A-levels or more	483 (89.2)	1	1

* $p < 0.05$

** $p < 0.01$

*** $p < 0.001$

In the unadjusted analysis, females, other ranks, and single personnel were less likely to take the resettlement they were entitled to, as were those who left Service in an unplanned way. Those with lower educational attainment were also less likely to take resettlement (note that this observation excludes officers). The adjusted model showed the same associations, except that being female and lower education were no longer significant after adjustment for method of leaving.

³⁷ Excludes commissioned officers, as almost all officers have higher education and hence education is effectively co-linear with rank for officers.

8.3 Missing/mistaken data on entitlement

Many questionnaires were returned without indicating whether the individual was entitled to resettlement, and others indicated that they were not entitled when in fact (based on their length of service and method of leaving) they were (see Chapter 4.4.3). A variable was generated comprising those who were unaware or mistaken about their entitlement to resettlement (i.e. were entitled to resettlement according to length of service and method of leaving, but did not indicate as such), and did not take any resettlement. Table 8-3 shows which socio-demographic and military factors were associated with this variable.

Table 8-3 Associations between socio-demographic and military factors and missing/mistaken regarding resettlement

<i>Category (n = 1,390)</i>	<i>Mistaken entitlement (%³⁸)</i>	<i>Unadjusted OR</i>	<i>Adjusted OR³⁹</i>
Total	196 (11.2)		
<i>Pre-enlistment variables</i>			
Sex			
Male	168 (10.7)	1	1
Female	28 (16.0)	1.59 (1.02-2.47)*	1.26 (0.77-2.08)
Pre-enlistment vulnerability (per count)		1.01 (0.95-1.07)	0.98 (0.93-1.05)
<i>Military variables</i>			
Service			
Royal Navy	31 (11.4)	1.10 (0.71-1.69)	0.91 (0.57-1.48)
Army/Royal Marines	113 (10.5)	1	1
RAF	52 (13.3)	1.31 (0.91-1.87)	1.34 (0.93-1.92)
Rank			
Officer	33 (10.5)	0.93 (0.61-1.40)	1.00 (0.65-1.53)
NCO	117 (11.2)	1	1
Other rank	46 (11.6)	1.04 (0.71-1.51)	0.86 (0.59-1.26)
Primary role			
Combat	35 (9.9)	0.82 (0.54-1.24)	0.79 (0.52-1.20)
Combat support	14 (7.9)	0.64 (0.35-1.15)	0.60 (0.32-1.13)
Combat support services	111 (11.9)	1	1
Deployment on HERRICK/TELIC			
Yes	92 (12.0)	0.88 (0.64-1.19)	0.96 (0.70-1.32)
No	104 (10.6)	1	1
Length of service (years)		1.01 (1.00-1.03)	1.03 (1.01-1.04)**
Method of leaving			
Planned	143 (9.2)	1	1
Unplanned	52 (32.0)	4.67 (3.18-6.86)***	4.41 (2.95-6.60)***

³⁸ Response weighted.

³⁹ Adjusted for sex, method of leaving, and relationship status.

<i>Category (n = 1,390)</i>	<i>Mistaken entitlement (%)</i>	<i>Unadjusted OR</i>	<i>Adjusted OR</i>
<i>Post-service/current variables</i>			
Relationship status			
Single	50 (14.6)	1.48 (1.04-2.11)*	1.30 (0.90-1.89)
Long-term relationship	146 (10.4)	1	1
Has children			
Yes	102 (12.1)	1.13 (0.83-1.55)	1.21 (0.87-1.70)
No	87 (10.8)	1	1
Education⁴⁰			
O-levels or less	85 (12.4)	1.25 (0.88-1.76)	1.07 (0.75-1.53)
A-levels or more	70 (10.2)	1	1

* $p < 0.05$

** $p < 0.01$

*** $p < 0.001$

The most important factor associated with missing or mistaken response regarding entitlement to resettlement is leaving Service in an unplanned way. Sex and relationship status were no longer significant after adjustment for method of leaving. Adjustment for method of leaving also explained why longer length of service became significantly associated with taking resettlement.

8.4 Unplanned leaving and being mistaken on resettlement

As shown above, being mistaken regarding one's resettlement entitlement is strongly affected by method of leaving. Hence it is potentially valuable to determine whether any particular method of leaving was disproportionately responsible for lack of knowledge regarding entitlement (and subsequently not taking resettlement). The numbers missing or mistaken regarding their entitlement for those who left in an unplanned fashion and did not take resettlement are shown, separated by method of leaving, in Table 8-4.

⁴⁰ Excludes commissioned officers, as almost all officers have high education and hence education is effectively co-linear with rank for officers.

Table 8-4 Missing or mistaken responses regarding entitlement to resettlement for those who did not take resettlement, by method of leaving for unplanned leavers

<i>Method of leaving</i>	<i>Number missing/mistaken regarding entitlement</i>	<i>% missing/mistaken within category (response-weighted)</i>
Medical discharge	36	36.4
Administrative discharge	11	28.8
Temperamental unsuitability	4	27.0
Disciplinary discharge	0	0
Compulsory redundancy	1	19.4
Total	52	32.0

There was no significant difference between method-of-leaving groups (response-weighted χ^2 4.49 (4 degrees of freedom), $p = 0.365$).

8.5 Choosing not to take resettlement

The questionnaire provided asks those respondents who did not take resettlement the reasons for that choice. The responses are show in Table 8-5 for those who were entitled to resettlement but did not take any ($n = 175$).

Table 8-5 Reasons for not taking resettlement

<i>Reason for not taking resettlement</i>	<i>Number endorsing</i>	<i>% of those total not taking resettlement (response-weighted)</i>
Left before entitlement	14	9.3
Ill health of self or close family member	18	10.0
Work duties/operational deployment	29	15.6
Deferred resettlement	12	6.4
Other	79	45.6
Multiple responses	4	1.9
Missing	19	11.1

Given the small numbers in each category, and the high proportion selecting “other”, no further analysis has been performed.

8.6 Summary

Most personnel in the ex-Service sample in this thesis were entitled to resettlement, and most who were entitled made use of their resettlement provision. Unplanned leavers are at particular risk of not using resettlement, even where they are entitled.

Chapter 9 Deprivation indices among Service leavers

This chapter describes the geographic characteristics of my ex-Service population in terms of both local deprivation indices and geographic distribution (as described in Chapter 4.5). First, I will consider urban/rural location, and how military and socio-demographic factors are associated with living in an urban or a rural area. Following this I discuss the areas in which the ex-Service sample are located in terms of socio-economic deprivation (taking into consideration urban/rural location), and compare how local deprivation varies with military and socio-demographic factors.

9.1 Literature on veteran geographic distribution

Literature regarding the geographic movement of veterans mostly considers US veterans, though the findings of such may still be relevant to UK personnel. Older veterans (those over 60 years of age) in the US from 1960-1990 (i.e. a primarily WW2 cohort) were more likely to migrate than non-veterans, and more likely to seek out amenity-rich settings (Cowper et al., 2000). The authors suggested these differences were due to the personal characteristics of veteran migrants (who were more likely to be married and had higher incomes than nonveteran migrants). The 2000 US Census found that the highest concentrations of veterans were in rural and non-metropolitan counties (Richardson and Waldrop, 2003). Living in rural locations may cause problems with access to health services and generally lead to lower health-related quality of life (Weeks et al., 2004), particularly for US veterans below the age of retirement (65 years) (West and Weeks, 2006).

A report on over 6,000 of the UK ex-Service community (which included dependents of ex-Service personnel) found a significantly lower proportion living in London compared with all UK adults (as well as a lower proportion living in the West Midlands, which contains the second-largest city in Britain, Birmingham). Ex-Service personnel

instead showed a preference for the North-West, the Yorkshire and Humberside region, and the more rural South-West (The Royal British Legion, 2005). Thus, overall, UK veterans seem to show a preference for rural regions compared with the general UK population, and hence may be at risk of the same difficulties as US veterans in accessing health services.

Hypotheses: UK veterans will show a preference for settling in rural areas compared with the general population. This will result in difficulties accessing services.

9.2 Urban/rural distribution

Postcode data were used to determine whether the area in which the ex-Service personnel were living was urban or rural, following the definitions of the Labour Force Survey (Barham and Begum, 2006). Table 9-1 shows the proportion of the ex-Service sample and the general population of England and Wales living in rural and urban locations. In both cases, the majority lived in urban areas. Veterans are more likely than the general population to live in rural areas ($\chi^2 = 84.09$ (d.f. = 1), $p < 0.001$). This may be due to the differences in demographics between veterans and civilians, however; in particular, there are few young veterans, and there is a trend towards rural living with increased age (Barham and Begum, 2006).

Table 9-1 Urban/rural distribution of veteran and general populations

<i>Urban/rural index</i>	<i>% in veteran sample⁴¹ (England and Wales)</i>	<i>% in general population (England and Wales) (Barham and Begum, 2006)</i>
Base indicator		
Urban (sparse)	0.4	0.3
Urban (less sparse)	70.8	79.1
Town and Fringe (sparse)	1.4	0.6
Town and Fringe (less sparse)	12.5	9.2
Village (sparse)	0.8	0.7
Village (less sparse)	10.4	6.9
Hamlet/Isolated dwelling (sparse)	0.7	0.5
Hamlet/Isolated dwelling (less sparse)	3.1	2.6
Combined measures⁴²		
All urban	71.2	79.5
All rural	28.8	20.5

Table 9-2 shows associations between living in a rural area and military and socio-demographic factors.

⁴¹ Response weighted.

⁴² As described in Methods (Chapter 4), “all urban” consists of the two urban indicators, and all others (“town and fringe”, “village” and “hamlet/isolated dwelling”) are combined into the “all rural” measure.

Table 9-2 Associations between living in a rural area and military and socio-demographic factors.

<i>Category (n = 1,418)</i>	<i>Rural (%)⁴³</i>	<i>Unadjusted OR⁴⁴</i>	<i>Adjusted OR⁴⁵</i>
<i>Pre-enlistment variables</i>			
Sex			
Male	385 (28.3)	1	1
Female	53 (34.5)	1.34 (0.93-1.92)	1.62 (1.04-2.54)*
Pre-enlistment vulnerability (per score)		0.94 (0.90-0.99)*	0.96 (0.91-1.01)
<i>Military variables</i>			
Service			
Royal Navy	47 (20.3)	0.69 (0.48-1.00)*	0.50 (0.30-0.83)**
Army/Royal Marines	254 (26.9)	1	1
RAF	137 (40.0)	1.81 (1.38-2.37)***	1.47 (1.05-2.06)*
Rank			
Officer	127 (48.3)	2.32 (1.74-3.08)***	1.92 (1.35-2.72)***
NCO	253 (28.8)	1	1
Other rank	58 (18.5)	0.56 (0.40-0.78)**	0.82 (0.53-1.27)
Length of service as a regular (years)		1.04 (1.03-1.05)***	1.02 (1.00-1.04)*
Role in parent unit			
Combat	68 (23.9)	0.70 (0.51-0.97)*	0.82 (0.56-1.20)
Combat Support	43 (27.4)	0.84 (0.56-1.25)	0.77 (0.51-1.18)
Combat Support Services	252 (31.0)	1	1
Deployment on HERRICK/TELIC			
Yes	228 (27.3)	0.84 (0.67-1.06)	0.92 (0.70-1.21)
No	210 (30.9)	1	1
Method of leaving			
Planned	372 (28.8)	1	1
Unplanned	48 (30.1)	1.06 (0.73-1.55)	1.33 (0.85-2.08)

⁴³ n = 438. Percentages are response weighted.

⁴⁴ Baseline for comparison is living in an urban area

⁴⁵ Adjusted for PEV (as a continuous variable), Service, rank, length of service, role, and relationship status.

<i>Category (n = 1,418)</i>	<i>Rural (%)</i>	<i>Unadjusted OR</i>	<i>Adjusted OR</i>
<i>Post-service/current variables</i>			
Relationship status			
Single	66 (22.9)	0.68 (0.50-0.93)*	0.81 (0.56-1.17)
Long-term relationship	372 (30.4)	1	1
Has children			
Yes	212 (29.6)	1	1
No	193 (27.2)	0.94 (0.74-1.19)	0.97 (0.73-1.29)
Time after leaving (per year)		1.00 (0.93-1.07)	1.00 (0.93-1.09)
Educational attainment⁴⁶			
O-levels-	139 (23.3)	0.85 (0.65-1.11)	1.08 (0.78-1.49)
A-levels+	150 (27.0)	1	1
<i>Resettlement</i>			
Entitlement to resettlement			
Yes	399 (30.9)	1	1
No	39 (18.9)	0.52 (0.35-0.76)**	0.96 (0.59-1.58)
Taking resettlement (for those with entitlement)			
Yes	317 (30.4)	1	1
No	53 (34.5)	1.20 (0.83-1.74)	1.05 (0.66-1.66)

* p < 0.05

** p < 0.01

*** p < 0.001

After adjustment, females and those with longer service (and hence older) were more likely to live in rural areas; these findings are similar to those found in the general population (Barham and Begum, 2006). As regards military factors, officers were more

⁴⁶ Excludes officers as almost all are educated to A-levels or higher.

likely to live in rural locations. Ex-RAF personnel were more likely to live in rural locations, while ex-Naval personnel are more likely to live in urban areas.

9.3 Deprivation indices: overall medians

UK deprivation indices were described in Chapter 4.5.1; in brief, the most deprived areas were ranked 1, so higher numbers indicated a less-deprived local area. “Local areas” in this chapter were the Lower-layer Super Output Areas (LSOAs) defined following the 2001 census. There were 32,482 LSOAs in England defined from that census (Office for National Statistics 2011). Though the population of LSOAs varied, they were intended to be broadly similar, so it can be assumed that the median deprivation index for any given dimension of deprivation in the general population was around 16,241. Note that Wales, Scotland and Northern Ireland all measure their own deprivation indices, and hence rankings from these countries are not comparable with the English indices; consequently this chapter considers only ex-Service personnel from England, as these comprise the majority of the sample (84.3%). A boxplot of the distributions of ranks for each deprivation domain among the ex-Service sample is shown in Figure 9-1. Ex-Service personnel are, in general, in less-deprived areas than the general population. This is true for all domains except barriers to housing and services, where the ex-Service population are similar to the general population.

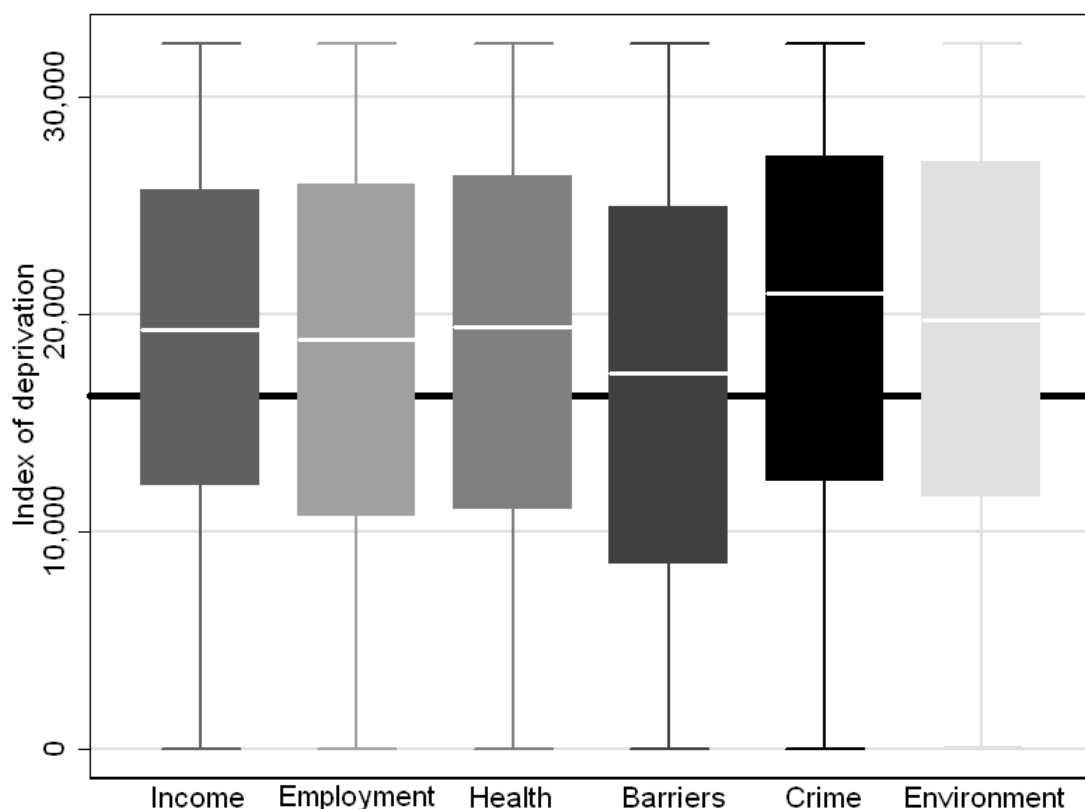


Figure 9-1 Boxplot of ranks for indices of deprivation among ex-Service sample⁴⁷

9.4 Deprivation indices: differences between military and socio-demographic groups

Having considered the overall medians of deprivation of the ex-Service sample, the next stage is to examine differences in deprivation indices between socio-demographic and military groups. To determine whether differences between socio-demographic and military groups were significant, a series of tests of medians was performed. Table 9-3 shows the results of testing medians for these factors as regards income deprivation.

9.4.1 A note on reading the following tables

The following tables in this chapter contains tests of medians where each group (e.g. males and females) is tested to see how many members are living in an area ranked above the overall median, and how many within that group are living in an area at or

⁴⁷ Thick horizontal line is the median for the general population. Medians for England only, as other UK countries are ranked within country and rankings cannot be combined.

below that median. As higher index rankings are less deprived, a group which has more members above the median is better-off than a group with more members at or below the median. For example, in Table 9-3, 606 planned leavers have rankings above the median, with 581 at or below the median; thus planned leavers tend to settle in less deprived areas (i.e. higher-ranked areas). By contrast, only 57 unplanned leavers are in above-median areas, with 82 at or below the median; thus unplanned leavers tend to settle in worse areas.

Tables include p-values of the probability that the apparent difference between groups is due to chance. To use the same example as the paragraph above, the p-value for the test of difference between medians for planned and unplanned leavers is 0.031, indicating that planned leaving is significantly associated with settling in less-deprived areas (those with ranks above the median). Tables also include columns investigating urban and rural populations separately (as urban and rural areas may have different characteristics, unrelated to the qualities of veterans settling there).

Table 9-3 Tests of medians for income deprivation, by military and socio-demographic factors.

<i>Category</i>	<i>Median rank</i>	<i>Equal or below median/above median</i>	<i>Median rank (urban)</i>	<i>Equal or below median /above median (urban)</i>	<i>Median rank (rural)</i>	<i>Equal or below median/ above median (rural)</i>
<i>Pre-enlistment factors</i>						
Sex		p = 0.794 ⁴⁸		p = 0.822		p = 0.036
Male	19280	621/617	17212	406/409	22325	181/166
Female	19984.5	72/76	16770	45/42	25383	18/33
PEV count		p < 0.001		p = 0.018		p = 0.013
0-1	20931.5	171/219	19046.5	109/129	24421.5	53/73
2-3	19663	226/249	17927	143/164	21303.5	73/65
4-5	18427	137/124	16107	96/81	23392	30/35
6+	15920	121/63	14012	78/51	19108	33/15
<i>Military factors</i>						
Rank		p < 0.001		p < 0.001		p = 0.035
Officer	24422	87/176	23686.5	32/92	24836.5	47/69
NCO	19460	410/422	17571.5	271/289	22281	121/109
Other ranks	14017	196/95	12013.5	148/70	20006	31/21
Service arm		p < 0.001		p = 0.009		p = 0.858
Royal Navy	20685.5	99/121	19570	69/96	22426.5	22/22
Army/Royal Marines	18414	460/390	16089	302/258	22400	116/111
RAF	21300	134/182	20453	80/97	22857	61/66

⁴⁸ Probability of observed difference in median distribution being due to chance.

<i>Category</i>	<i>Median rank</i>	<i>Equal or below median/above median</i>	<i>Median rank (urban)</i>	<i>Equal or below median/above median (urban)</i>	<i>Median rank (rural)</i>	<i>Equal or below median/above median (rural)</i>
Length of service		p < 0.001		p < 0.001		p = 0.305
<4	1944	19/21	16291	15/9	24192.5	7/9
4-<6	14719	177/96	13062	132/79	21529.5	22/18
6-<14	19184	148/143	16186.5	99/85	22325	39/38
14-<23	19672	181/195	18955	103/130	21043	68/53
23+	22420.5	126/196	20662.5	71/117	24836	54/71
Deployment HERRICK/TELIC		p = 0.105		p = 0.461		p = 0.616
Did not deploy	19832	292/323	17667.5	193/205	22384.5	100/94
Deployed	18825	401/370	16601.5	258/246	23119	99/105
Role		p = 0.001		p = 0.051		p = 0.690
Combat	16859	161/106	15355	105/78	21538.5	33/27
Combat Services	20867	59/75	18603	36/47	24507	18/20
Combat Services Support	19697.5	360/398	17584	237/253	23067	114/117
Method of leaving		p = 0.031		p = 0.003		p = 0.262
Planned	19540	581/606	17686.5	371/399	22747.5	165/173
Unplanned	16960	82/57	13569	59/31	21099.5	26/18

<i>Category</i>	<i>Median rank</i>	<i>Equal or below median/above median</i>	<i>Median rank (urban)</i>	<i>Equal or below median/above median (urban)</i>	<i>Median rank (rural)</i>	<i>Equal or below median/above median (rural)</i>
Current/ex-Service factors						
Years since leaving		p = 0.080		p = 0.379		p = 0.663
<1	21071.5	134/174	19362	84/105	22783.5	44/48
1-<2	18278	159/132	16012.5	108/90	23918.5	32/40
2-<3	19451	152/155	17315	98/102	21867	51/41
3-<4	18737	115/107	16992	72/69	22712	36/37
4+	18825	132/123	16803	88/84	21934.5	36/32
Relationship status		p = 0.116		p = 0.125		p = 0.884
Single	17858	142/118	16012	105/85	22347	28/26
Long-term relationship	19536	551/574	17523	346/365	22711	171/173
Having children		p = 0.698		p = 0.973		p = 0.001
Yes	19175.5	337/329	16992	215/215	24170	112/80
No	19502.5	314/322	17194.5	212/211	21123.5	72/103
Educational attainment		p <0.001		p = 0.031		p = 0.330
O-levels-	17580	320/249	16306	217/184	21423	72/62
A-levels+	20510	337/407	18305.5	214/246	22638	112/122
Urban/rural		p <0.001				
Urban	17137	513/389	-	-	-	-
Rural	22502	137/261	-	-	-	-

Overall, those who settled in rural regions were in higher-income areas. There was no overall difference between sexes as regards local income deprivation; however, in rural areas, females were in less income-deprived areas than males. There were significant differences across PEV categories; those in the highest PEV category were more frequently in worse income deprivation areas, with those in the lowest PEV group more frequently in better income areas.

There were significant differences across rank and Service; officers were more frequently in better income areas, and other ranks most frequently in worse income areas. Among urban veterans, ex-Army personnel were more likely to live in more income-deprived areas, as were those who had a combat role, and those with lower length of service (and hence age).

Urban ex-Service personnel with lower educational attainment and unplanned leavers lived in areas with worse income deprivation. In rural areas, those with children were in more deprived areas than those without.

Table 9-4 shows comparisons of medians as regards employment deprivation. Employment deprivation shows a similar pattern to income deprivation. Deployment to HERRICK/TELIC is associated with higher local employment deprivation.

Table 9-4 Tests of medians for employment deprivation, by military and socio-demographic factors

<i>Category</i>	<i>Median rank</i>	<i>Equal or below median/above median</i>	<i>Median rank (urban)</i>	<i>Equal or below median/above median (urban)</i>	<i>Median rank (rural)</i>	<i>Equal or below median/above median (rural)</i>
<i>Pre-enlistment factors</i>						
Sex		p = 0.931		p = 0.367		p = 0.016
Male	18838.5	619/619	16153	403/412	22930	182/165
Female	18825.5	74/74	14807	48/39	25962	17/34
PEV count		p < 0.001		p = 0.006		p = 0.022
0-1	20722.5	171/219	18148.5	104/134	23875.5	60/66
2-3	19539	229/246	16171	151/156	23529	70/68
4-5	18619	133/128	15844	90/87	24749	26/39
6+	14755	122/62	13352	81/48	18104.5	33/15
<i>Military factors</i>						
Rank		p < 0.001		p < 0.001		p < 0.001
Officer	24735	69/194	23931.5	34/90	25236.5	40/76
NCO	18685.5	421/411	16778.5	269/291	22368	125/105
Other ranks	12594	203/88	10420.5	148/70	18223.5	34/18
Service arm		p = 0.002		p < 0.001		p = 0.594
Royal Navy	20447.5	99/121	19239	61/104	21617	25/19
Army/Royal Marines	17557	457/393	14502	315/245	23741	110/117
RAF	20984.5	137/179	19184	75/102	23172	64/63

<i>Category</i>	<i>Median rank</i>	<i>Equal or below median/above median</i>	<i>Median rank (urban)</i>	<i>Equal or below median/above median (urban)</i>	<i>Median rank (rural)</i>	<i>Equal or below median/above median (rural)</i>
Length of service		p < 0.001		p < 0.001		p = 0.116
<4	19352.5	19/21	11788	14/10	24381	6/10
4-<6	13867	181/92	11684	137/74	19836	24/16
6-<14	17645	154/137	14902	102/82	23795	37/40
14-<23	18963	186/189	17639	104/129	21882	69/52
23+	22508	111/211	20642.5	64/124	24897	54/71
Deployment to HERRICK/TELIC		p = 0.105		p = 0.019		p = 0.920
Did not deploy	19445	292/323	17389.5	181/217	23677.5	96/98
Deployed	18168	401/370	15057	270/234	23389	103/101
Role		p = 0.005		p = 0.027		p = 0.117
Combat	16153	156/111	13236	107/76	22943.5	35/25
Combat Services	20850	59/75	17394	37/46	25774.5	14/24
Combat Services Support	19211	365/393	16477.5	234/256	23615	116/115
Method of leaving		p = 0.001		p = 0.019		p = 0.149
Planned	19239	574/613	16337.5	374/396	23760.5	164/174
Unplanned	15623	89/50	11514	56/34	18629.5	27/17

<i>Category</i>	<i>Median rank</i>	<i>Equal or below median/above median</i>	<i>Median rank (urban)</i>	<i>Equal or below median/above median (urban)</i>	<i>Median rank (rural)</i>	<i>Equal or below median/above median (rural)</i>
Years since leaving		p = 0.082		p = 0.372		p = 0.829
<1	20642.5	136/172	17695	82/107	24215	43/49
1-<2	18983	144/147	15057	104/94	23754.5	35/37
2-<3	18958	152/155	15502.5	103/97	22097.5	49/43
3-<4	17705.5	123/99	15843	73/68	23808	35/38
4+	17758	137/118	15793.5	88/84	22820.5	37/31
Current/ex-Service factors						
Relationship status		p = 0.003		p = 0.019		p = 0.464
Single	16032.5	152/108	14263.5	110/80	23935	24/30
Long-term relationship	19328	541/584	16754	341/370	23137	175/169
Having children		p = 0.956		p = 0.706		p = 0.192
Yes	18829	333/333	16193	212/218	22374	103/89
No	18763.5	318/318	15538	215/208	24157	81/94
Educational attainment		p <0.001		p = 0.031		p = 0.159
O-levels-	17058	319/250	14971	217/184	22219	74/60
A-levels+	20558.5	338/406	17213	214/246	23879	110/124
Urban/rural		p <0.001				
Urban	15958	528/374	-	-	-	-
Rural	23529	122/276	-	-	-	-

Table 9-5 shows the results of testing medians of health deprivation indices. Most findings were similar to income deprivation. Unlike income deprivation, those in long-term relationships settled in areas with better local health indices. Shorter length of service was associated with living in more deprived areas among rural veterans, while deployment and having a combat role were associated with living in more deprived areas among urban veterans. Sex and the presence of children no longer showed associations.

Table 9-5 Tests of medians for health deprivation, by military and socio-demographic factors

<i>Category</i>	<i>Median rank</i>	<i>Equal or below median/ above median</i>	<i>Median rank (urban)</i>	<i>Equal or below median/ above median (urban)</i>	<i>Median rank (rural)</i>	<i>Equal or below median/ above median (rural)</i>
<i>Pre-enlistment factors</i>						
Sex		p = 0.294		p = 0.313		p = 0.368
Male	18996	632/618	15802.5	407/417	23749	178/171
Female	20627	68/81	13466	49/39	25607	22/29
PEV count		p < 0.001		p = 0.071		p = 0.006
0-1	21069.5	170/222	17246	108/131	24444	59/68
2-3	19850	233/248	16262	150/162	24628.5	60/78
4-5	17866	140/124	14362	98/81	23520.5	37/29
6+	15985.5	119/67	14099	75/56	20828.5	34/14
<i>Military factors</i>						
Rank		p < 0.001		p < 0.001		p < 0.001
Officer	25202	73/191	21782.5	37/87	26564	41/76
NCO	19009	424/416	16710	264/303	23236	125/105
Other ranks	12197	203/92	10297	155/66	21551	34/19
Service arm		p < 0.001		p < 0.001		p = 0.248
Royal Navy	20571	101/121	19580	61/105	21700.5	27/17
Army/Royal Marines	17506.5	469/389	13901	320/247	23995.5	113/115
RAF	21776	130/189	18287	61/105	24320.5	60/68

<i>Category</i>	<i>Median rank</i>	<i>Equal or below median/ above median</i>	<i>Median rank (urban)</i>	<i>Equal or below median/ above median (urban)</i>	<i>Median rank (rural)</i>	<i>Equal or below median/ above median (rural)</i>
Length of service		p < 0.001		p < 0.001		p = 0.001
<4	17849	21/19	10781	15/9	24213	7/9
4-<6	13525	182/97	12407	141/76	21573.5	28/12
6-<14	17386	163/132	14201.5	101/85	25478	36/42
14-<23	20498.5	181/197	16298	113/122	23016.5	72/50
23+	22825	110/212	20836	55/133	25790	48/77
Deployment to HERRICK/TELIC		p = 0.105		p = 0.019		p = 0.920
Did not deploy	19445	292/323	17389.5	181/217	23677.5	96/98
Deployed	18168	401/370	15057	270/234	23389	103/101
Role		p = 0.009		p = 0.006		p = 0.111
Combat	16067	154/114	12510.5	111/73	23520.5	32/28
Combat Services	21880	58/79	17236.5	41/45	27174	13/25
Combat Services Support	19414	375/391	16194.5	232/264	23656	121/112
Method of leaving		p = 0.094		p = 0.036		p = 0.078
Planned	19547	589/608	16075	379/399	24208	164/176
Unplanned	17147	81/61	10262	56/36	21663.5	28/16

<i>Category</i>	<i>Median rank</i>	<i>Equal or below median/ above median</i>	<i>Median rank (urban)</i>	<i>Equal or below median/ above median (urban)</i>	<i>Median rank (rural)</i>	<i>Equal or below median/ above median (rural)</i>
Years since leaving		p = 0.437		p = 0.705		p = 0.146
<1	20845	141/169	16962	88/103	24883.5	40/52
1-<2	19229	146/146	15400.5	101/97	25573	30/42
2-<3	18699	162/150	15502	104/99	22308	54/40
3-<4	18351	119/106	14569.5	77/67	22658	41/32
4+	18956	130/127	16125.5	85/89	23273.5	35/33
Current/ex-Service factors						
Relationship status		p < 0.001		p = 0.107		p = 0.772
Single	16198	157/105	13665	106/85	24803	26/29
Long-term relationship	20044	542/594	16247.5	350/370	23790	174/171
Having children		p = 0.825		p = 0.414		p = 0.107
Yes	18890	339/334	15723	211/224	24481	105/88
No	19248	318/323	15030	220/207	23036	80/96
Educational attainment		p < 0.001		p = 0.004		p = 0.160
O-levels-	17176	321/253	14109.5	225/181	23337	74/60
A-levels+	20750.5	342/410	16957	211/254	24406	111/125
Urban/rural		p < 0.001				
Urban	15631.5	550/362	-	-	-	-
Rural	23896.5	106/294	-	-	-	-

The median rank for the ex-Service sample for barriers to housing and services is close to that of the general population, unlike other deprivation indices. Tests of medians as regards barriers to housing and services are shown in Table 9-6.

Table 9-6 Tests of medians for barriers to services, by military and socio-demographic factors

<i>Category</i>	<i>Median rank</i>	<i>Equal or below median/above median</i>	<i>Median rank (urban)</i>	<i>Equal or below median/above median (urban)</i>	<i>Median rank (rural)</i>	<i>Equal or below median/above median (rural)</i>
<i>Pre-enlistment factors</i>						
Sex		p = 0.729		p = 0.214		p = 0.134
Male	16841	633/628	18979	423/410	10127	169/180
Female	18099	72/77	20027.5	38/50	7750	31/20
PEV count		p = 0.288		p = 0.819		p = 0.456
0-1	15938	211/183	18655	124/117	7588	70/57
2-3	17420	232/250	18810	160/153	10213	64/74
4-5	16285.5	136/132	19598.5	88/94	8360.5	35/31
6+	18115.5	87/101	19734	63/70	10082.5	22/26
<i>Military factors</i>						
Rank		p < 0.001		p < 0.001		p < 0.001
Officer	9891	187/77	15126	83/41	5879	78/39
NCO	18215	385/463	19797	268/305	11010.5	102/128
Other ranks	18601	133/165	19372	110/114	14648	20/33
Service arm		p = 0.349		p = 0.088		p = 0.266
Royal Navy	15948	121/104	17745	97/71	7880.5	26/18
Army/Royal Marines	17356	421/445	19637.5	277/297	9407	116/112
RAF	16769	163/156	19450	87/92	11278	58/70

<i>Category</i>	<i>Median rank</i>	<i>Equal or below median/above median</i>	<i>Median rank (urban)</i>	<i>Equal or below median/above median (urban)</i>	<i>Median rank (rural)</i>	<i>Equal or below median/above median (rural)</i>
Length of service		p = 0.024		p = 0.198		p = 0.291
<4	14808.5	23/17	17018	13/11	11738.5	6/10
4-<6	18869	124/157	20076	99/120	9395.5	20/20
6-<14	14970	166/135	17258	106/83	8330.5	40/38
14-<23	17628	177/202	19826	112/124	10924	54/68
23+	15992	172/151	18882	99/90	7588	71/54
Deployment to HERRICK/TELIC		p = 0.335		p = 0.970		p = 0.271
Did not deploy	17429	303/322	19316	203/203	10424	91/103
Deployed	16603	402/383	19230	258/257	8566	109/97
Role		p = 0.080		p = 0.132		p = 0.319
Combat	14822	150/119	17258	104/81	10301	27/33
Combat Services	15832	70/67	20646.5	39/47	7218	23/15
Combat Services Support	17619	370/403	19509	243/258	10068	116/117
Method of leaving		p = 0.077		p = 0.149		p = 0.078
Planned	16727	613/592	18984	400/385	8471	176/164
Unplanned	18827	61/82	20945.5	39/53	14739	16/28

<i>Category</i>	<i>Median rank</i>	<i>Equal or below median/above median</i>	<i>Median rank (urban)</i>	<i>Equal or below median/above median (urban)</i>	<i>Median rank (rural)</i>	<i>Equal or below median/above median (rural)</i>
Years since leaving		p = 0.695		p = 0.936		p = 0.498
<1	16764	160/155	19231.5	97/97	7915	50/42
1-<2	16742	148/144	18729.5	104/94	8073.5	39/33
2-<3	16791	158/157	20092	99/107	10308	46/48
3-<4	15940	119/108	19329	73/73	9875	37/36
4+	18050.5	119/139	19493	87/87	12350	28/40
Current/ex-Service factors						
Relationship status		p = 0.099		p = 0.052		p = 1.000
Single	18580	120/145	19934	84/109	9890	27/28
Long-term relationship	16687.5	585/559	18717	376/351	9875	173/172
Having children		p = 0.030		p = 0.263		p = 0.957
Yes	17756	319/359	19686	211/228	9940	97/96
No	16174	344/303	18659	225/207	10059	88/88
Educational attainment		p < 0.001		p = 0.113		p < 0.001
O-levels-	18718.5	253/325	19767	193/217	12671	50/84
A-levels+	15466	415/343	18587	247/222	7747	135/101
Urban/rural		p < 0.001				
Urban	19263	385/536	-	-	-	-
Rural	9882.5	276/124	-	-	-	-

Barriers to services do not show the same trends as previous deprivation indices. Rank makes a difference; officers are more likely to settle in worse areas as regards barriers to services. There were significant differences between length of service groups, but no overall trend. Those with children were less likely to be in areas with higher barriers to services, but being in a relationship did not make a significant difference (though urban singles had a borderline trend to better access to services). More educated personnel in rural areas were more likely to be in worse areas as regards barriers to services. Those in rural regions were generally worse off as regards barriers to services.

Testing of medians for local crime indices are shown in Table 9-7.

Table 9-7 Tests of medians for local crime, by military and socio-demographic factors

<i>Category</i>	<i>Median rank</i>	<i>Equal or below median/above median</i>	<i>Median rank (urban)</i>	<i>Equal or below median/above median (urban)</i>	<i>Median rank (rural)</i>	<i>Equal or below median/above median (rural)</i>
<i>Pre-enlistment factors</i>						
Sex		p = 0.664		p = 0.822		p = 0.072
Male	20739.5	630/624	17325	415/412	26490	181/168
Female	21016	71/77	17476	42/45	27412	19/32
PEV count		p = 0.036		p = 0.073		p = 0.556
0-1	21619	184/209	16722	126/114	27051	61/66
2-3	21615.5	229/251	18895	138/173	26449	71/67
4-5	20184	142/125	17130.5	94/88	26369.5	37/29
6+	18435	107/77	15111	73/56	27220	21/27
<i>Military factors</i>						
Rank		p < 0.001		p < 0.001		p = 0.585
Officer	24298	84/180	21002	46/78	26864	57/60
NCO	20683.5	426/416	17694	277/291	26807	113/117
Other ranks	16344.5	191/105	13610.5	134/88	24787	30/23
Service arm		p < 0.001		p = 0.023		p = 0.471
Royal Navy	21140.5	106/118	18895	75/92	26864	21/23
Army/Royal Marines	19659	464/397	16410	305/265	26500	120/108
RAF	23527	131/186	19173	77/100	26936	59/69

<i>Category</i>	<i>Median rank</i>	<i>Equal or below median/above median</i>	<i>Median rank (urban)</i>	<i>Equal or below median/above median (urban)</i>	<i>Median rank (rural)</i>	<i>Equal or below median/above median (rural)</i>
Length of service		p < 0.001		p < 0.001		p = 0.969
<4	22369.5	19/21	18736	10/14	27385	8/8
4-<6	16117	184/95	13846	133/84	26719.5	20/20
6-<14	18864	166/133	15384	107/82	27051	40/38
14-<23	21693.5	168/208	19135	104/129	26418	58/64
23+	23797	121/201	20771.5	72/116	26769	65/60
Deployment to HERRICK/TELIC		p = 0.119		p = 0.286		p = 0.484
Did not deploy	21347	296/326	17576	193/210	26660.5	101/93
Deployed	20194.5	405/375	17059	264/247	26936	99/107
Role		p = 0.053		p = 0.203		p = 0.770
Combat	18864	152/117	15384	103/82	26885	31/29
Combat Services	20708	67/70	16813.5	43/43	28790	17/21
Combat Services Support	20965	368/399	17263	238/258	27064	118/115
Method of leaving		p = 0.664		p = 0.834		p = 0.873
Planned	21081	597/602	17373	389/391	26792.5	171/169
Unplanned	20549	74/68	16753	47/44	27353	21/23

<i>Category</i>	<i>Median rank</i>	<i>Equal or below median/above median</i>	<i>Median rank (urban)</i>	<i>Equal or below median/above median (urban)</i>	<i>Median rank (rural)</i>	<i>Equal or below median/above median (rural)</i>
Years since leaving		p = 0.144		p = 0.645		p = 0.289
<1	21962	139/173	18277.5	90/102	27074.5	44/48
1-<2	19747	156/136	17004	105/93	28510	29/43
2-<3	20422	161/153	16862	108/97	26745.5	48/46
3-<4	21241	107/117	18551	70/73	25530	41/32
4+	19683	137/120	17543.5	83/91	26398	38/30
Current/ex-Service factors						
Relationship status		p = 0.003		p = 0.044		p = 1.000
Single	18633	154/109	15971.5	109/83	26864	27/28
Long-term relationship	21166	547/591	17738	348/373	26769	173/172
Having children		p = 0.783		p = 0.919		p = 0.793
Yes	20812	335/341	17255	220/217	26787	95/98
No	20661.5	324/318	17327.5	213/215	26660.5	90/86
Educational attainment		p = 0.004		p = 0.078		p = 0.589
O-levels-	19053	314/261	16378	217/190	27122	64/70
A-levels+	21749	350/403	18147	219/246	26640.5	121/115
Urban/rural		p < 0.001				
Urban	17327.5	571/343	-	-	-	-
Rural	26778	86/314	-	-	-	-

Among urban personnel, lower PEV, higher rank, longer length of service, higher educational attainment, and being single were associated with living in areas with lower crime. Ex-RAF personnel in urban areas tended towards areas with lower crime, while ex-Army/Royal Marines tended towards higher crime. Those in rural regions settled in areas with lower crime.

Differences between groups as regards local environment are shown in Table 9-8.

Table 9-8 Tests of medians for local environment, comparing military and socio-demographic groups

<i>Category</i>	<i>Median rank</i>	<i>Equal or below median/above median</i>	<i>Median rank (urban)</i>	<i>Equal or below median/above median (urban)</i>	<i>Median rank (rural)</i>	<i>Equal or below median/above median (rural)</i>
<i>Pre-enlistment factors</i>						
Sex		p = 0.729		p = 0.582		p = 0.764
Male	19587	628/633	19292	414/419	20275	176/173
Female	18420	77/72	17852.5	47/41	20904	24/27
PEV count		p = 0.070		p = 0.087		p = 0.252
0-1	20277.5	187/207	20443	111/130	20275	64/63
2-3	20241	233/249	20313	150/163	20841	67/71
4-5	19435	136/132	18626	96/86	22023.5	29/37
6+	17423.5	110/78	16814	78/55	18184.5	30/18
<i>Military factors</i>						
Rank		p = 0.011		p = 0.006		p = 0.247
Officer	19210	136/128	19738.5	60/64	18396	66/51
NCO	20561	399/449	20389	268/305	21033	108/122
Other ranks	17439.5	170/128	16582	133/91	21103	26/27
Service arm		p < 0.001		p = 0.005		p = 0.007
Royal Navy	17057	124/101	18335	87/81	14493.5	31/13
Army/Royal Marines	18679	455/411	18225	304/270	20533.5	114/114
RAF	22599	126/193	23068	70/109	21779	55/73

<i>Category</i>	<i>Median rank</i>	<i>Equal or below median/above median</i>	<i>Median rank (urban)</i>	<i>Equal or below median/above median (urban)</i>	<i>Median rank (rural)</i>	<i>Equal or below median/above median (rural)</i>
Length of service		p < 0.001		p < 0.001		p = 0.770
<4	19248	20/20	17269.5	13/11	23736.5	7/9
4-<6	17489	166/115	17135	133/86	20655	20/20
6-<14	17257.5	171/129	16361	108/81	18910.5	44/34
14-<23	21515	171/208	21173	107/129	21525.5	58/64
23+	22483	134/189	23715	68/121	20597	63/62
Deployment to HERRICK/TELIC		p = 0.007		p = 0.041		p = 0.368
Did not deploy	20883	287/338	20780.5	188/218	21189.5	92/102
Deployed	18665	418/367	18304	273/242	19538.5	108/98
Role		p = 0.070		p = 0.219		p = 0.467
Combat	17541	151/118	17360	101/84	18959.5	34/26
Combat Services	20313	64/73	18251	46/40	21978.5	17/21
Combat Services Support	19855	375/398	19682	239/262	21103	115/118
Method of leaving		p = 0.723		p = 0.750		p = 0.605
Planned	19682	600/605	19402	391/394	20597	173/167
Unplanned	18910	74/69	17772	48/44	21005.5	20/24

<i>Category</i>	<i>Median rank</i>	<i>Equal or below median/above median</i>	<i>Median rank (urban)</i>	<i>Equal or below median/above median (urban)</i>	<i>Median rank (rural)</i>	<i>Equal or below median/above median (rural)</i>
Years since leaving		p = 0.998		p = 0.820		p = 0.784
<1	19468	159/156	19177.5	99/95	21108	44/48
1-<2	19294.5	148/144	17979.5	102/96	21289	33/39
2-<3	19583	157/158	18556	107/99	20521	47/47
3-<4	20468	112/115	20544.5	68/78	19231	38/35
4+	19664	128/130	19682	84/91	19289	38/30
Current/ex-Service factors						
Relationship status		p = 0.001		p = 0.010		p = 0.147
Single	16814	157/108	16617	113/80	18063	33/22
Long-term relationship	20157	548/596	19760	347/380	20904	167/178
Having children		p = 0.273		p = 0.263		p = 0.717
Yes	20157	328/350	19760	211/228	21266	99/94
No	19186	335/312	18211.5	225/207	20597	86/90
Educational attainment		p = 0.167		p = 0.971		p = 0.001
O-levels-	20366.5	276/302	19224.5	205/205	23760	51/83
A-levels+	19105.5	392/366	19166	235/234	19027	134/102
Urban/rural		p = 0.202				
Urban	19207	472/449	-	-	-	-
Rural	20521	189/211	-	-	-	-

Table 9-8 shows a fairly similar pattern of associations as most other deprivation indicators. Ex-RAF personnel have a better local environment than those from other Services. Among urban personnel, shorter service, being single, deploying to HERRICK/TELIC, and holding an “other rank” were associated with worse local environment. Among rural personnel, those with lower educational attainment live in better local environments.

9.5 Summary

Table 9-9 summarises most of the associations found above between socio-demographic and military factors and indices of deprivations. Deprivation indices generally worsened with higher PEV. Higher ranks are generally better off than lower ranks. Army/Royal Marines in urban areas were generally worse off than other Services. Those who served longer (and hence were older) were generally better off than those with shorter service. Urban ex-Service personnel who held a combat role were generally worse off than those who held other roles, and those who left in an unplanned fashion were generally worse off than planned leavers. Urban single ex-Service personnel appear worse off than those in long-term relationships. Those with higher educational attainment generally live in less-deprived areas. These general trends do not apply in certain situations, however. In particular, access to services ignores or reverses these trends in most groupings.

Table 9-9 Overall summary of associations between factors and deprivation indices

<i>Factor</i>	<i>Income</i>	<i>Employment</i>	<i>Health</i>	<i>Barriers</i>	<i>Crime</i>	<i>Environment</i>
Female	Better (rural)	Better (rural)	-	-	-	-
Higher PEV	Worse	Worse	Worse (rural)	-	Worse (urban)	-
Officer	Better	Better	Better	Worse	Better (urban)	-
Other rank	Worse	Worse	Worse	-	Worse (urban)	Worse (urban)
Army	Worse (urban)	Worse (urban)	Worse (urban)	-	Worse (urban)	(RAF better, Navy worse rural)
Longer service	Better (urban)	Better (urban)	Better	-	Better (urban)	Better (urban)
Deployment	-	Worse (urban)	Worse (urban)	-	-	Worse (urban)
Combat role	Worse (urban)	Worse (urban)	Worse (urban)	-	-	-
Unplanned leaving	Worse (urban)	Worse (urban)	Worse (urban)	-	-	-
Time since leaving	-	-	-	-	-	-
Single	-	Worse (urban)	Worse (urban)	-	Worse (urban)	Worse (urban)
Has children	Worse (rural)	-	-	Better	-	-
Lower education	Worse (urban)	Worse (urban)	Worse (urban)	Better (rural)	Worse (urban)	Better (rural)
Rural	Better	Better	Better	Worse	Better	-

Chapter 10 Employment

In this chapter, I examine which factors are associated with post-service employment (and related outcomes). I begin by discussing the main data sources regarding post-service employment, followed by a description of the existing academic literature before drawing hypotheses from the literature. Employment-related outcomes comprise:

1. Whether the respondent is employed at the time of questionnaire completion,
2. Whether the respondent is employed, in education, or retired (EER) at the time of questionnaire completion,
3. How frequently the respondent has changed jobs since leaving the military,
4. The respondent's longest period of unemployment.

In each case, analysis will proceed in up to three stages. First, odds ratios will be calculated for the association between the factors and the outcome. Secondly, adjusted odds ratios will be calculated, adjusting all factors for those expected to be significantly associated with the outcome from an examination of the literature (except where the literature is sparse or contradictory, in which case inclusion in adjustment model will be data driven), but excluding resettlement. If resettlement is found to be significantly associated with the employment outcome, a third round of analysis will be performed adjusting for resettlement. These second and third stages are performed separately to allow analysis of both the effect of resettlement after adjustment for other factors, and to see the degree to which resettlement moderates the effects of other factors. The chapter ends with a brief summary of findings – a full discussion of results will be made in the Discussion chapter (see Chapter 14).

10.1 Existing sources regarding veteran employment

In the UK, there are relatively few independent sources of information on the employment status of veterans. Official government surveys almost exclusively

investigate overall levels of post-Service employment, rather than examining factors predicting employment. Non-governmental studies are sparse in the UK; some exist for US veterans, but these tend to focus on Vietnam veterans (Barrett et al., 1988; Brooks et al., 2008; Kulka et al., 1990). These studies mostly compare veteran employment levels to those of civilians, rather than identifying factors associated with the re-employment of Service leavers.

The official source of information on veterans' employment is the MOD's Director of Resettlement. Together with their private-sector resettlement provider⁴⁹, MOD Resettlement monitor re-employment by postal questionnaire among a random sample of those receiving the resettlement package 6 months after leaving service (Career Transition Partnership, 2009). There are some caveats to these data. The provider only contacts those who have undertaken the resettlement package (around 75% of leavers); this excludes most Early Service Leavers, and those with disciplinary discharges, hence excluding some who may be most at risk of unemployment. It excludes those whose contact details have changed (around 14%), again excluding one of the most potentially vulnerable groups. Finally, it is only performed at the 6 month point, and provides no longer-term information. The MOD take steps to identify Early Service Leavers who leave without resettlement, but this is restricted to exchanging information with the Department of Work and Pensions to determine income tax and Jobseeker's Allowance payments in this group. Overall, the post-service follow-up strategy of the MOD risks overlooking some vulnerable groups.

Another government source of information is a survey performed by the National Audit Office of personnel leaving the Services between October 2004 and October 2006. This

⁴⁹ Right Management, with whom the Career Transition Partnership was formed in 1998.

survey only had a 13% response rate (4,997 responses received), and focused on users' satisfaction with resettlement services (National Audit Office, 2007).

The only large independent study on employment outcomes of UK veterans was performed by Iversen et al at the King's Centre for Military Health Research (Iversen et al., 2005b). The sample comprised 3,300 ex-Service personnel who served in the Armed Forces in 1991, and was composed of three groups: some who had deployed to the Gulf (1990–91), others who had deployed to Bosnia (1992–97) and an 'Era' control group (those in the UK Armed Forces in 1991 but not deployed by the time of the initial survey (1997)). The study was performed (as part of a larger cohort study, the King's Gulf cohort) in 2001; consequently, this information is dated, and many in the sample may have left before the current resettlement provisions were in place (around October 1998). Furthermore, it sampled a smaller number than government surveys (e.g. the NAO survey had over 38,000 responses). Nonetheless, this study does have advantages over government sources; in particular, it was designed to find predictors of employment (whereas government sources were designed simply to track overall employment rates), and considers the effect of a wide range of factors on post-service employment outcomes.

Apart from the King's Gulf cohort study, there is little research on the effects of military and socio-demographic factors on UK post-military employment outcomes. The most useful source for the effect of socio-demographic variables on economic outcomes is UK Census data, the most recent of which dates from 2001 (Office for National Statistics, 2003a). While census data take no account of military factors, and are only useful for socio-demographic factors, the census has the advantage of a very large sample size.

10.2 Overall post-service employment

The MOD sample of service leavers surveyed 6 months after leaving found that from 2000-2009 employment rates ranged from 90% to 97% (Career Transition Partnership, 2009). The National Audit Office (NAO) survey of personnel leaving the Services (at any time within two years prior to October 2006) reported that 81% of survey respondents were full- or part-time employed. Among Early Service Leavers, 16% were unemployed and seeking work (National Audit Office, 2007).

An Army study conducted in 1995 found that the unemployment rate of ex-soldiers was nearly 20%, 12 to 14 months after leaving; this compared with a national unemployment rate at the time of less than 9% (Bracken, 2000). In the King's Gulf cohort it was found that, of "phase 1" individuals (who responded in 1997, potentially up to 7 years after leaving), 87.5% were employed at follow-up (Iversen et al., 2005b)⁵⁰.

Hypothesis: Post-service employment rates will be high, most likely over 80%.

10.3 Effects of pre-military variables

10.3.1 Sex

A comparison of male/female employment in the general UK population from official sources is shown in Table 10-1.

⁵⁰ This study comprised two samples of ex-Service personnel: those who had left by the time of initial response ("phase 1"), and those who had left by the time of a later interview study ("phase 3"). Individuals were not asked about employment status during the phase 1 study, so this information is taken from those "phase 1" ex-Service personnel who also responded at "phase 3" (n=2,795). Individuals who had not left service until "phase 3" are not included here as they left service at a different time, and are a smaller sample (n=383).

Table 10-1 Proportions for male and female employment among the UK general population

Source of data	Males: employed %	Females: employed %
2001 UK census (Office for National Statistics, 2003a), ages 16-74	67.1	54.3
ONS Labour Market Statistics Aug-Oct 2008 (ages 16+) (Office for National Statistics, 2008a)	66.1	53.8
ONS Labour Market Statistics Aug-Oct 2008 (ages 16 years-retirement)	78.1	70.1

Regarding the re-employment of specifically ex-Service females within the UK, the King's Gulf cohort found that (as in the general population) males were more likely to be employed than females (adjusted odds ratio 2.44, 95% confidence interval 1.50-3.98) (Iversen et al., 2005b).

US data from 1990 indicates that military service provided no overall earnings advantage for women; in fact, service was disadvantageous for female veterans (except for African-Americans) (Cooney et al., 2003). However, a later study using 2005 US data showed that female veterans had superior earnings than non-veteran women (Gottschalck-Holder and Holder, 2009). Even in this later study, the effects were small (4-9%, depending on ethnicity⁵¹), and so even if this positive effect of service translates to contemporary UK servicewomen, it is unlikely to override the overall lower employment rate for women.

⁵¹ According to one US study, black veterans generally have the most to gain. Black male and female veterans aged 16-64 years had salaries 7% and 9% higher than civilian counterparts; white female veterans earned 4% more than civilians, while white males earned 2% less. Gottschalck-Holder AO and Holder KA. (2009) We Want You! The Role of Human Capital in Explaining the Veteran-Non-Veteran Earnings Differential. 2009 Eastern Economic Association Annual Meeting. New York.

Thus while there is little evidence comparing female with male post-service employment other than the King's Gulf cohort, other evidence (from the general population and the US) supports the hypothesis that female employment levels are lower than those of males.

Hypothesis: Females will be less likely than males to be employed.

10.3.2 Pre-enlistment vulnerability

Childhood maltreatment is often mooted as a cause of poor employment outcomes later in life; at the same time, there are suggestions that serving in the Armed Forces can mitigate the negative consequences of pre-enlistment socio-economic factors. Elder's longitudinal studies of US personnel showed that entry into the armed forces at a younger age confers the greatest social and personal benefits on disadvantaged youths, indeed effectively erasing the negative effects of coming from a disadvantaged background (Elder and Meguro, 1987; Elder and Clipp, 1988)⁵². By contrast, a group of college-educated men who entered service after the age of 32 years showed no benefits, even if they had disadvantageous origins; this could suggest that mitigating effects of service were limited for the later enlistee (or that those who enter college differ such that potential benefits are not realised) (Elder et al., 1997).

UK veterans reported having experienced more childhood adversity than civilians (Woodhead et al., 2011), and pre-enlistment anti-social behaviour is associated with negative behaviours after enlistment (MacManus et al., 2011). There is little research on the direct effect of pre-enlistment vulnerability on post-service employment with UK veterans. However, examining the effects of pre-enlistment vulnerability on a sample of nearly 8,000 male UK military personnel who were or had been in regular service revealed associations with mental health problems (Iversen et al., 2007a), and those

⁵² The younger cohort in this study was 7-8 years younger than the older cohort. Both cohorts were in service during World War 2.

with poor mental health are less likely to be employed post-service among the King's Gulf cohort (Iversen et al., 2005b).

Thus there is a body of evidence which suggests that military service can mitigate negative effects of pre-enlistment adversity. There is also indirect evidence that pre-enlistment vulnerability could lead to lower levels of post-service employment as a consequence of poor mental health. However, there is no direct evidence of an association between pre-enlistment vulnerability and post-service employment among UK veterans.

Hypothesis: Higher levels of pre-enlistment vulnerability will be associated with lower levels of employment.

10.4 Effects of military variables

10.4.1 Rank

Officers (commissioned and non-commissioned) have, on average, acquired more skills (both technical and leadership-related) during service, due both to their roles and their longer average period of service. Furthermore, commissioned officers will generally have joined with a higher level of education attainment. These factors, and the social status associated with higher rank, might be expected to lead to higher levels of employment for officers and NCOs compared with other ranks (privates and equivalents). However, the generation following the Second World War experienced an “ex-officer problem”, whereby transition to civilian employment and ways of life was particularly difficult for the who had gained officer status during the war due to “the uniquely awkward adjustments associated with being ‘de-officered’⁵³ at the same time

⁵³ Those who were “raised from the ranks” often had working-class backgrounds and limited education and skills before the war; thus they had to face a change in social status as they returned to their working-class surroundings, as well as a change in occupation and the difficulty of being under-skilled (or at least lacking the skills necessary to maintain the status they had as an officer).

as being demobilized” (Petter, 1994). That effect could have been linked to in-Service achievement and subsequent loss of status by a population who traditionally lacked social mobility in the prevailing culture of the time.

The role of rank in post-service employment has been rarely considered. However, the King’s Gulf cohort analysed this and found that being an NCO was associated with higher employment rates than either commissioned officers or other ranks (Iversen et al., 2005b).

Hypothesis: Both other ranks and commissioned officers will have lower employment rates than NCOs.

10.4.2 Length of service

Historically, there has been concern that “institutionalisation” caused by extended military service increases difficulty in readjustment (the “military retirement syndrome”) (McNeil and Giffen, 1967). In the US, a cohort comprising Korean and early Vietnam-era veterans surveyed at ages 51-61 years found that those who had served acquired less wealth than those who had not. This effect increased for length of time served (except where length of service exceeded 20 years, and the individual became eligible for a military pension) (Fitzgerald, 2006). However, another US study based on data from the National Longitudinal Study of Youth found no effect of length of service (Teachman and Tedrow, 2007). That study contained those at least age 16 years between the years 1979 and 2002, and hence represents a more modern experience than the previous sample.

In the UK, a recent NAO survey found no effect of length of service – in fact it appeared that younger, more junior ex-Service personnel reported more difficulty in transition (National Audit Office, 2007). This argues against the “military retirement syndrome” hypothesis, or may indicate that other characteristics of junior members are

overcoming bias that would be introduced by the “military retirement syndrome” (e.g. their lower rank and hence lack of transferrable skills and/or younger age and hence lack of capital acquired). This report relied on self-reported difficulty in transition rather than employment or earning statistics. While there are few studies directly on the effects of length of service on re-employment, most Armed Forces personnel join at a roughly similar age. 2001 UK Census data show that, at that time, employment for the general population increased with age before decreasing for those aged 50+ years (presumably due in part to retirement) (Table 10-2) (Office for National Statistics, 2003a).

Table 10-2 2001 UK Census: age and economic activity

Age (years)	Total	% economically active
16-24	5,677,802	65.0
25-34	7,418,929	82.1
35-49	11,045,605	82.8
50-59	6,553,316	72.4

The King’s Gulf cohort contained ex-Service personnel who had left the military between 1990 and 2001. Although effect of length of service was not examined in this sample, the effect of age was. Adjusted odds ratios showed that, among those who had left Service by the time of initial sampling (i.e. between 1990 and 1997), increasing age was significantly associated with unemployment. Among those leaving by the time of subsequent sampling (between 1997 and 2001) age had no significant effect; this subsample was smaller, and hence loss of significant association could be the result of reduced statistical power (Iversen et al., 2005b). These findings are of limited value as time since leaving within these samples is not homogeneous (and more widely spread than the data in this thesis): that is, some may be older but have served for shorter

periods, and vice versa; consequently, age in that study does not represent a close proxy for length of service.

Thus it may be concluded that the body of evidence on the effect of length of service is mixed, with limited relevance to a modern UK cohort. While short servers have shown employment difficulties in some contexts, there may be a “military retirement syndrome” reducing employment for older, longer servers.

Hypothesis: Length of service will have a limited effect on post-service employment, however, it is not possible to predict the direction of any effect. Consequently, the decision whether to adjust for this factor will be data-driven. The model will be adjusted for length of service if it is significantly associated with employment before considering other factors.

10.4.3 Service

The skills taught to military personnel differ between Services, with the Royal Navy and RAF in particular emphasising technical skills. Hence it might be expected that post-service employment outcomes would differ according to which Service the individual had belonged. There is little existing literature examining this. One exception is the King’s Gulf cohort, which found no difference in the adjusted odds ratios for post-service employment by Service (Iversen et al., 2005b).

Hypothesis: There will be no difference in post-service employment by Service.

10.4.4 Role

Relatively few existing studies consider the effect of role on employment – most who investigate this area focus on deployment and/or exposure to combat and related traumatic events. While all roles may be at risk of attack, combat exposure is most experienced by those in combat roles. A study of US National Guard troops returning from conflicts in Iraq and Afghanistan showed that combat exposure had a slight

positive effect on employment (though no effect when full-time employment alone was analysed) (Burnett-Zeigler et al., 2011). A twin study of Vietnam veterans found no difference in socio-economic markers between combat experience-discordant twins (McCarren et al., 1995). On the other hand, a survey of US citizens in the general population describing combat-related experiences as their most disturbing trauma were more likely to be unemployed (Prigerson et al., 2001). Overall, evidence of the effect of role is scarce, but the evidence from combat exposure (which would be expected to correlate with combat role, as combat personnel have the front-line duties that bring them most into hazardous situations) gives no reason to expect role to have an effect on employment.

Hypothesis: Role will not be associated with employment.

10.4.5 Deployment

A recent US survey of 585 National Guard members returning from deployment to Iraq or Afghanistan (and hence, as National Guard members, immediately returning to the civilian labour force) found that employed members were more likely to have deployed multiple times (Burnett-Zeigler et al., 2011). However, after adjustment for other factors (including age and race), the effect of multiple deployments was removed. Among the King's Gulf cohort, number of deployments was not associated with employment; nonetheless, those who deployed to the Gulf were more likely to be employed (after adjustment), while those who deployed to Bosnia were similar to non-deployed personnel (Iversen et al., 2005b).

Hypothesis: Deployment will not be associated with post-service employment.

10.4.6 Method of leaving

Literature considering the association between method of leaving and employment is sparse. A study of 74 UK personnel who left service early via the UK Military

Corrective Training Centre found that those with administrative discharges (who were required to return to their units before discharge, and had less time to make use of educational and vocational services in the Corrective Training Centre) were more likely to be “disadvantaged” (a variable including unemployment) than those with other discharges (van Staden et al., 2007). Administrative discharges are one of the largest groups of unplanned leavers, and the lack of time to prepare for leaving by those in the van Staden study is an issue faced by other unplanned leavers.

Hypothesis: Unplanned leavers will be less likely to be in employment.

10.4.7 Resettlement

The literature regarding resettlement itself can be found in Chapter 2. The higher rates of re-employment for post-resettlement surveys (Career Transition Partnership, 2009), as opposed to those measuring employment across the veteran population (National Audit Office, 2007; Iversen et al., 2005b), indicate that resettlement does indeed improve post-service employment. However, there is no direct evidence on the effect of resettlement.

Hypothesis: Those undertaking resettlement will be more likely to be employed.

10.5 Effects of post-service/current variables

10.5.1 Relationship status

Existing literature on the effect of marriage and relationships on the employment of veterans largely focuses on secondary effects – that is, the effect of service on the employment of military spouses (Schwartz et al., 1991; Castaneda and Harrell, 2008; Scarville, 1990). Being in a stable relationship improves the likelihood of being in employment in the general population - UK 2001 Census data showed that, for those aged 16-74 years, 66.9% of those co-habiting were employed compared with 51.2% of those not living in a couple (Office for National Statistics, 2003a). For ex-Service

personnel, the most relevant source is the King's Gulf cohort, which found a positive association between being married and employment (Iversen et al., 2005b).

Hypothesis: Being in a relationship will be associated with being in employment.

10.5.2 Having children

There are few studies on the effect of having children on post-service employment. In the absence of such information, I hypothesize that having children follows the same pattern as relationship status (as having children is likely to be correlated with being in a long-term relationship⁵⁴). In the civilian population, motherhood is associated with lower income (Budig and England, 2001), but fatherhood is not (Lundberg and Rose, 2000). UK 2001 census data show that males aged 16-74 with dependent children have higher employment rates than 16-74 year old males in general (88% against 67%); females with children have also have higher employment than the general female population, though the effect is not as large (63% against 54%). Further, the employment of most working women with children is part-time, while most employed women in the whole population work full-time (Office for National Statistics, 2003a). If these effects are due to women favouring the child-rearing role, then women with children may be less likely to be employed than men with children. As a consequence of this differential effect, analysis of employment rates will be stratified by sex: thus, if women are indeed disproportionately affected by having children, this effect will be detectable.

Hypothesis: Having children will be associated with better employment outcomes in an unadjusted analysis, though this effect may be only due to the effect of a relationship. Adjusted analysis stratified by sex will show an association between having children and unemployment for women.

⁵⁴ There were 6.2 million couples with children aged 0-18 in the UK in 2001, compared with 2.4 million living alone with children (Office for National Statistics. (2003a) Census 2001: National Report for England and Wales.).

10.5.3 Education

Higher educational attainment is associated with higher rates of employment in the general population (Table 10-3) (Office for National Statistics, 2003a).

Table 10-3 2001 UK Census: education and employment (ages 16-59 years)

Educational attainment	Total in UK	% economically active
No qualifications/unknown	8731516	65.0%
School education (between GCSE- and A-level standard)	15421072	79.7%
Higher level education	6543064	87.1%

Educational attainment for US World War 2 veterans was affected by the GI Bill, which facilitated access to higher education for those who had served. A longitudinal study of “delinquent” and “non-delinquent” youths followed them through their lives, including military service (for two thirds of the cohort), and showed that participation in the GI bill was a powerful predictor of occupational and socio-economic well-being at 32 years, even for those who were “delinquent” prior to service (Sampson, 1996).

It is difficult to separate the effects of pre-enlistment education and formal qualifications acquired during or after service. Additionally, educational attainment partly determines rank – commissioned officers are rarely without some form of higher education. The King’s Gulf cohort found no association between higher educational achievement and employment (Iversen et al., 2005b). Consequently, rather than modelling the effects of rank and education, rank will be used in the main analysis, with a separate analysis to investigate the effect of education for those who are not commissioned officers.

Hypothesis: Higher education will be associated with being in employment.

10.5.4 Time since leaving the military

While US studies show that Vietnam- and Korea-era veterans generally earn less than civilians (Angrist and Krueger, 1990; Angrist and Krueger, 1994a; Angrist and Krueger, 1994b; Rosen and Taubman, 1982), they also show that veterans “catch up” with civilians over time (Teachman and Tedrow, 2007; Teachman, 2004).

In the UK, MOD surveying of post-Service employment does not examine employment rates beyond 6 months after leaving, so it will miss changes in employment rates beyond this period. Since it may take some time to find a new career, employment rates may increase after this point. On the other hand, an opposite effect may occur whereby recent leavers fall in to the first job available on leaving, only to lose it or move away at some time after 6 months. The MoD figures do give some indication on how long it took service leavers to acquire new employment up to 6 month point. The distribution was not even, but showed that more leavers took a shorter time, with over 50% of leavers finding employment in less than a month but less than 3% finding employment in the 6th month after discharge (Career Transition Partnership, 2009). From this, and the US information above, evidence indicates that employment prospects will improve with length of time since leaving service.

Hypothesis: Increasing time after leaving will be associated with greater levels of employment.

10.5.5 Summary of expected effects

Table 10-4 summarizes the above hypotheses, indicating which sociodemographic and military factors are/are not expected to be associated with employment.

Table 10-4 Summary of hypotheses regarding employment outcomes

<i>Effect</i>	<i>Factor</i>
Factors associated with increased post-service employment	Being male
	Being an NCO
	Being in a stable relationship
	Having children
	Receiving resettlement
	Increasing time after leaving service
	Planned method of leaving service
	Lower pre-enlistment vulnerability
	Higher educational attainment
No association	Length of service
	Service arm
	Deployment
	Role

10.6 Associations with employment

The first analysis in this chapter deals with socio-demographic and military factors associated with being employed at the time of responding to the questionnaire. For the reasons given above (10.5.2), males and females are analysed separately (Table 10-5 for males and Table 10-6 for females). As described in Methods (Chapter 4.6.7), time after leaving is applied as a continuous variable and length of service is applied as a quadratic.

10.6.1 Employment: Males

Table 10-5 Factors associated with employment, males

<i>Category (males only) (n = 1,534)</i>	<i>Employed (%⁵⁵)</i>	<i>Unadjusted OR (95% CI)</i>	<i>Adjusted OR⁵⁶ (95% CI)</i>	<i>Adjusted for resettlement⁵⁷ (95% CI)</i>
Total	1,325 (86.4)			
<i>Pre-enlistment variables</i>				
PEV (per count)		0.96 (0.91-1.01)	0.97 (0.90-1.03)	1.00 (0.92-1.09)
<i>Military variables</i>				
Service				
Royal Navy	197 (88.7)	1.26 (0.80-1.99)	1.38 (0.81-2.36)	1.04 (0.58-1.87)
Army/Royal Marines	841 (86.1)	1	1	1
RAF	287 (85.1)	0.92 (0.64-1.32)	1.03 (0.67-1.59)	1.09 (0.66-1.79)
Rank				
Officer	235 (83.2)	0.67 (0.46-0.96)*	0.96 (0.61-1.52)	0.99 (0.61-1.60)
NCO	815 (88.1)	1	1	1
Other rank	275 (83.9)	0.70 (0.48-1.01)	0.96 (0.53-1.74)	1.52 (0.67-3.46)
Length of service as a regular (years)		1.13 (1.07-1.19)***	1.05 (0.97-1.13)	1.05 (0.96-1.15)
Primary role				
Combat	279 (84.0)	0.75 (0.51-1.09)	0.80 (0.51-1.27)	1.14 (0.63-2.07)
Combat support	131 (86.9)	0.95 (0.55-1.64)	1.09 (0.61-1.94)	1.14 (0.57-2.28)
Combat support services	691 (87.5)	1	1	1
Deployment on HERRICK/TELIC				
Yes	744 (85.8)	1	1	1
No	581 (86.9)	1.10 (0.81-1.49)	1.35 (0.93-1.96)	1.37 (0.89-2.09)

⁵⁵ Response weighted.

⁵⁶ Adjusted for pre-enlistment vulnerability, rank, method of leaving, length of service (quadratic model), relationship status, having children, and time after leaving. Does not include adjustment for education, due to co-linearity with rank.

⁵⁷ Adjusted for factors as above and resettlement for those with entitlement.

<i>Category (males only) (n = 1,534)</i>	<i>Employed (%)</i>	<i>Unadjusted OR (95% CI)</i>	<i>Adjusted OR (95% CI)</i>	<i>Adjusted for resettlement (95% CI)</i>
Method of leaving				
Planned	1,177 (88.0)	1	1	1
Unplanned	88 (68.6)	0.30 (0.20-0.45)***	0.29 (0.18-0.48)***	0.32 (0.17-0.61)***
Post-service/current variables				
Relationship status				
Single	216 (77.8)	0.47 (0.33-0.65)***	0.36 (0.24-0.55)***	0.39 (0.24-0.64)***
Long-term relationship	1,108 (88.3)	1	1	1
Has children				
Yes	684 (89.8)	1	1	1
No	559 (82.4)	0.53 (0.39-0.73)***	0.72 (0.49-1.07)	0.54 (0.35-0.84)**
Time after leaving (per month, to 9 months)		1.27 (1.20-1.34)***	1.29 (1.21-1.37)***	1.31 (1.21-1.41)***
Education⁵⁸				
O-levels or less	523 (87.2)	1.06 (0.74-1.50)	1.22 (0.81-1.84)	1.68 (1.00-2.78)*
A-levels or more	512 (86.5)	1	1	1
Resettlement variables				
Entitlement to resettlement				
Yes	1,172 (86.7)	1	1	
No	153 (83.9)	0.80 (0.51-1.24)	1.31 (0.67-2.54)	
Taking resettlement (for those with entitlement)				
Yes	995 (89.1)	1	1	
No	124 (77.5)	0.42 (0.27-0.65)***	0.53 (0.31-0.92)*	

* p < 0.05 ** p < 0.01 *** p < 0.001

⁵⁸ Excludes commissioned officers, as almost all officers have high education and hence education is effectively co-linear with rank for officers.

After adjustment, among men, the following factors were associated with being employed: planned leaving, being in a long-term relationship, having children, and increasing time after leaving. The effect of rank disappears after adjustment for length of service. Resettlement is associated with employment. Those with less education are more likely to be employed (but only after excluding officers and those who were not entitled to resettlement, as well as adjusting for the effect of taking resettlement).

10.6.2 Employment: Females

Table 10-6 Factors associated with employment, females

<i>Category (females only)</i> (<i>n</i> = 169)	<i>Employed</i> (% ⁵⁹)	<i>Unadjusted OR</i>	<i>Adjusted OR</i> ⁶⁰
Total	125 (71.4)		
<i>Pre-enlistment variables</i>			
PEV (per count)		0.96 (0.83-1.11)	1.04 (0.87-1.25)
<i>Military variables</i>			
Service			
Royal Navy	30 (70.0)	0.52 (0.22-1.23)	1.08 (0.37-3.17)
Army/Royal Marines	76 (81.6)	1	1
RAF	19 (48.4)	0.21 (0.09-0.49)***	0.25 (0.08-0.80)*
Rank			
Officer	18 (66.5)	0.68 (0.27-1.71)	0.33 (0.11-0.92)*
NCO	80 (74.5)	1	1
Other rank	27 (66.4)	0.67 (0.30-1.52)	0.62 (0.19-2.01)
Length of service as a regular (years)		0.84 (0.65-1.08)	0.84 (0.61-1.15)
Primary role			
Combat	2 (100.0)	-	-
Combat support	14 (76.1)	1.31 (0.43-4.01)	0.94 (0.18-4.86)
Combat support services	87 (70.8)	1	1
Deployment on HERRICK/TELIC			
Yes	55 (67.5)	1	1
No	70 (74.8)	1.43 (0.72-2.82)	1.36 (0.59-3.12)
Method of leaving			
Planned	96 (75.4)	1	1
Unplanned	20 (54.3)	0.39 (0.18-0.85)*	0.49 (0.19-1.27)

⁵⁹ Response weighted.

⁶⁰ Adjusted for pre-enlistment vulnerability, rank, method of leaving, length of service (quadratic model), relationship status, having children, and time after leaving. Does not include adjustment for education, due to co-linearity with rank.

<i>Category (females only) (n = 169)</i>	<i>Employed (%)</i>	<i>Unadjusted OR</i>	<i>Adjusted OR</i>
<i>Post-service/current variables</i>			
Relationship status			
Single	31 (61.0)	0.50 (0.24-1.03)	0.52 (0.20-1.36)
Long-term relationship	94 (75.6)	1	1
Has children			
Yes	39 (57.9)	1	1
No	81 (80.6)	3.02 (1.48-6.17)**	6.98 (2.43-20.06)***
Time after leaving (per month, to 9 months)			
		1.18 (1.02-1.36)*	1.40 (1.16-1.70)**
Education ⁶¹			
O-levels or less	52 (72.9)	1.08 (0.50-2.33)	1.45 (0.54-3.91)
A-levels or more	50 (71.2)	1	1
<i>Resettlement variables</i>			
Entitlement to resettlement			
Yes	94 (71.8)	1	1
No	37 (70.3)	0.93 (0.43-2.05)	0.51 (0.09-2.73)
Taking resettlement (for those with entitlement)			
Yes	72 (76.8)	1	1
No	14 (63.3)	0.52 (0.19-1.44)	0.87 (0.24-3.11)

* p < 0.05

** p < 0.01

*** p < 0.001

⁶¹ Excludes commissioned officers, as almost all officers have higher education and hence education is effectively co-linear with rank for officers.

For reference, females have an unadjusted odds ratio for being employed of 0.40 (95% CI 0.27-0.57, $p < 0.001$) compared with males. Adjusted for key factors which vary between sexes (length of service, rank, and Service arm), this OR is 0.41 (0.27-0.61, $p < 0.001$). Female ex-RAF personnel were less likely to be employed than female veterans from other Service branches, and female officers were less likely to be employed. Females with children were much less likely to be employed than females without children. As resettlement was not associated with employment, no column is presented for a resettlement-adjusted model.

10.7 Employment, Education and Retirement

As described in Chapter 4.6.3, I analysed another outcome variable closely linked to employment: “EER”. This includes all those employed, and those who stated they were in education or retired, at time of response. The numbers and percentages of those EER, along with crude and adjusted odds ratios, are presented in Table 10-7 for males and Table 10-8 for females.

10.7.1 EER: Males

Table 10-7 Factors associated with EER, males

<i>Category (n = 1,534)</i>	<i>EER (%⁶²)</i>	<i>Unadjusted OR</i>	<i>Adjusted OR⁶³ (95% CI)</i>	<i>Adjusted for resettlement⁶⁴ (95% CI)</i>
Total	1,381 (89.6)			
Pre-enlistment variables				
PEV (per count)		0.91 (0.85-0.96)**	0.93 (0.87-1.00)	0.98 (0.89-1.09)
Military variables				
Service				
Royal Navy	207 (92.7)	1.56 (0.90-2.72)	1.52 (0.82-2.82)	1.08 (0.55-2.12)
Army/Royal Marines	870 (89.0)	1	1	1
RAF	304 (89.5)	1.05 (0.69-1.59)	1.09 (0.66-1.80)	1.33 (0.73-2.43)
Rank				
Officer	264 (93.2)	1.48 (0.89-2.46)	1.66 (0.90-3.07)	1.84 (0.96-3.54)
NCO	834 (90.2)	1	1	1
Other rank	283 (86.6)	0.70 (0.47-1.05)	0.86 (0.45-1.64)	1.53 (0.57-4.13)
Length of service (years)		1.06 (0.99-1.13)	0.97 (0.88-1.07)	0.93 (0.82-1.05)
Primary role				
Combat	285 (85.6)	0.57 (0.38-0.86)**	0.63 (0.38-1.03)	0.86 (0.44-1.68)
Combat support	138 (90.9)	0.95 (0.49-1.85)	0.95 (0.50-1.80)	1.03 (0.46-2.32)
Combat support services	724 (91.3)	1	1	1
Deployment on HERRICK/TELIC				
Yes	771 (88.7)	1	1	1
No	610 (90.9)	1.27 (0.89-1.81)	1.36 (0.90-2.06)	1.25 (0.78-2.01)

⁶² Response weighted.

⁶³ Adjusted for pre-enlistment vulnerability, rank, method of leaving, length of service (quadratic model), relationship status, having children, and time after leaving. Does not include adjustment for education, due to co-linearity with rank.

⁶⁴ Adjusted for factors as above, and resettlement for those with entitlement.

<i>Category (n = 1,534)</i>		<i>EER (%)</i>	<i>Unadjusted OR</i>	<i>Adjusted OR</i>	<i>Adjusted for resettlement</i>
Method of leaving					
Planned	1,227 (91.5)	1	1	1	
Unplanned	90 (69.7)	0.21 (0.14-0.33)***	0.22 (0.13-0.37)***	0.24 (0.13-0.45)***	
Post-service/current variables					
Relationship status					
Single	225 (80.7)	0.37 (0.26-0.54)***	0.31 (0.19-0.48)***	0.38 (0.22-0.67)**	
Long-term relationship	1,155 (91.8)	1	1	1	
Has children					
Yes	693 (90.9)	1	1	1	
No	601 (87.7)	0.71 (0.50-1.02)	0.92 (0.58-1.44)	0.69 (0.41-1.16)	
Time after leaving (per month, to 9 months)		1.26 (1.19-1.34)***	1.31 (1.22-1.40)***	1.32 (1.22-1.44)***	
Education⁶⁵					
O-levels or less	533 (88.9)	0.93 (0.63-1.36)	1.12 (0.72-1.74)	1.70 (0.96-3.00)	
A-levels or more	529 (89.6)	1	1	1	
Resettlement variables					
Entitlement to resettlement					
Yes	1,224 (90.3)	1	1	-	
No	157 (86.1)	0.67 (0.42-1.07)	1.14 (0.56-2.33)	-	
Taking resettlement (for those with entitlement)					
Yes	1,039 (92.9)	1	1	-	
No	125 (81.3)	0.33 (0.21-0.54)***	0.41 (0.23-0.74)**	-	

* p < 0.05 ** p < 0.01 *** p < 0.001

⁶⁵ Excludes commissioned officers, as almost all officers have higher education and hence education is effectively co-linear with rank for officers.

As with employment, planned leaving, being in a long-term relationship, and time after leaving were associated with EER. Having children does not increase the likelihood of being EER for males. Taking resettlement was associated with EER.

10.7.2 EER: Females

Table 10-8 Factors associated with EER, females

<i>Category (n = 174)</i>	<i>EER⁶⁶ (%)</i>	<i>Unadjusted OR (95% CI)</i>	<i>Adjusted OR⁶⁷ (95% CI)</i>
Total	136 (77.6)		
<i>Pre-enlistment variables</i>			
PEV (per count)		0.97 (0.83-1.12)	1.07 (0.88-1.30)
<i>Military variables</i>			
Service			
Royal Navy	34 (79.3)	0.69 (0.27-1.79)	1.46 (0.41-5.27)
Army/Royal Marines	79 (84.6)	1	1
RAF	23 (59.0)	0.26 (0.11-0.64)**	0.21 (0.07-0.63)**
Rank			
Officer	6 (77.6)	0.90 (0.32-2.53)	0.52 (0.15-1.80)
NCO	22 (79.4)	1	1
Other rank	10 (73.4)	0.72 (0.30-1.71)	1.07 (0.28-4.04)
Length of service as a regular (years)		0.93 (0.72-1.21)	1.05 (0.74-1.48)
Primary role			
Combat	2 (100.0)	-	-
Combat support	15 (80.8)	1.24 (0.37-4.13)	1.05 (0.18-6.13)
Combat support services	95 (77.3)	1	1
Deployment on HERRICK/TELIC			
Yes	61 (75.0)	0.75 (0.36-1.58)	0.85 (0.34-2.12)
No	75 (79.9)	1	1
Method of leaving			
Planned	104 (81.9)	1	1
Unplanned	23 (61.2)	0.35 (0.15-0.80)*	0.47 (0.16-1.35)

⁶⁶ Response weighted.

⁶⁷ Adjusted for Service pre-enlistment vulnerability, rank, method of leaving, length of service (quadratic model), relationship status, having children, and time after leaving. Does not include adjustment for education, due to co-linearity with rank.

<i>Category (n = 174)</i>	<i>EER (%)</i>	<i>Unadjusted OR (95% CI)</i>	<i>Adjusted OR (95% CI)</i>
<i>Post-service/current variables</i>			
Relationship status			
Single (inc. divorced, widowed)	36 (71.5)	0.62 (0.29-1.36)	0.69 (0.25-1.90)
Long-term relationship	100 (80.1)	1	1
Has children			
Yes	44 (65.0)	1	1
No	86 (85.4)	3.13 (0.14-6.82)**	12.56 (3.73-42.30)***
Time after leaving (per month to 9 months)		1.26 (1.09-1.46)**	1.60 (1.30-1.99)***
Education ⁶⁸			
O-levels or less	54 (75.8)	0.92 (0.41-2.07)	1.28 (0.45-3.60)
A-levels or more	54 (77.3)	1	1
<i>Resettlement</i>			
Entitlement to resettlement			
Yes	104 (79.5)	1	1
No	32 (72.6)	0.68 (0.30-1.55)	0.31 (0.05-1.89)
Taking resettlement (for those with entitlement)			
Yes	79 (84.3)	1	1
No	16 (73.0)	0.50 (0.17-1.53)	0.81 (0.16-4.11)

* p < 0.05

** p < 0.01

*** p < 0.001

As with employment, female veterans were less likely to be EER than male veterans ($\chi^2 = 20.76$, $p < 0.001$). Female ex-RAF personnel were less likely to be EER, as were those who had left more recently. Those with children were less likely to be EER.

⁶⁸ Excludes commissioned officers, as almost all officers have higher education and hence education is effectively co-linear with rank for officers

10.8 Occupational transience

Following is an analysis of “occupational transience” – that is, the frequency that the individual changed jobs. This variable is used here as a proxy for difficulty maintaining civilian employment (although occupational transience could also be caused by success causing rapid promotion or simply individual choice to move jobs repeatedly).

As described in Methods (Chapter 4.6.5), occupational transience was analysed by negative binomial regression, due to its Poisson-like distribution with a high number of zero scores (Figure 10-1). Length of service is applied as a continuous linear variable, as is pre-enlistment vulnerability. Incidence rate ratios are given in Table 10-9. Those who have never had a job to the date of sampling were excluded ($n = 140$). Unlike employment/EER, no difference between sexes was expected or observed, so this analysis is not stratified by sex.

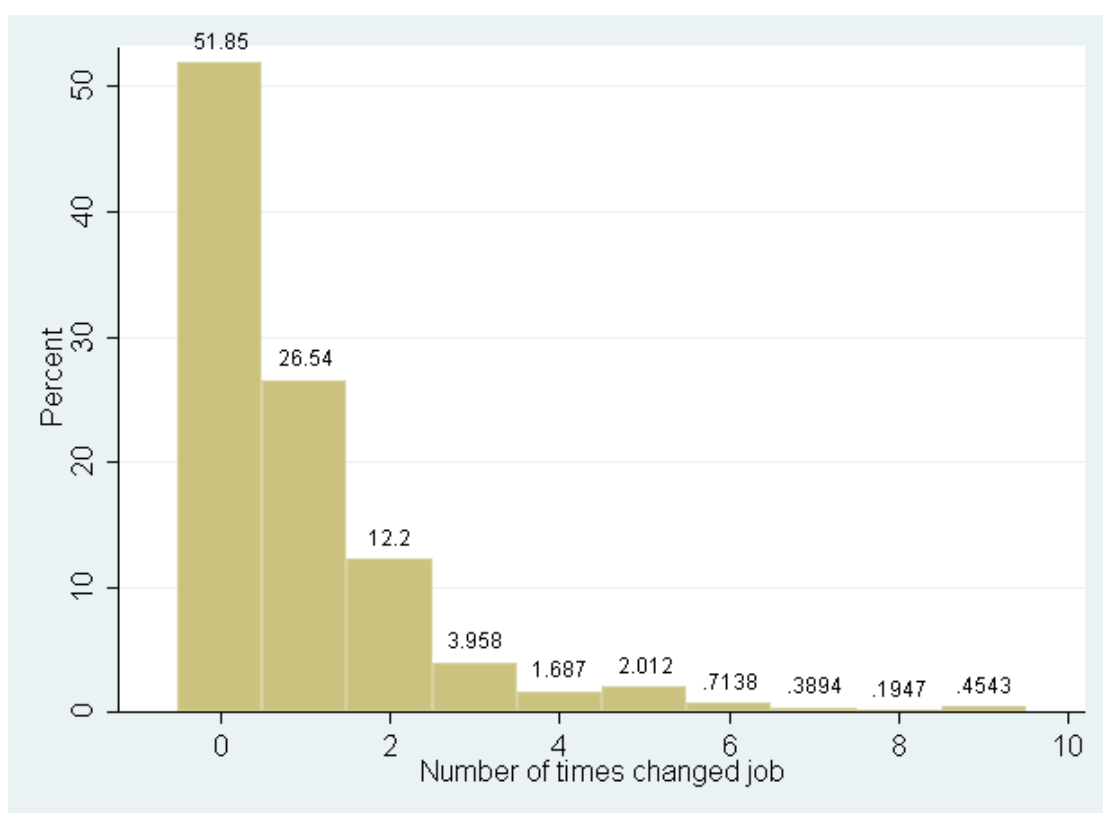


Figure 10-1: Number of times changed job since leaving Service

Table 10-9 Associations between occupational transience and military and socio-demographic factors

<i>Category (n = 1,681)</i>	<i>Unadjusted IRR</i>	<i>Adjusted IRR⁶⁹ (95% CI)</i>	<i>Adjusted for resettlement⁷⁰ (95% CI)</i>
<i>Pre-enlistment variables</i>			
Sex			
Male	1	1	1
Female	0.92 (0.72-1.17)	0.98 (0.74-1.28)	1.18 (0.86-1.64)
PEV (per count)	1.08 (1.05-1.11)***	1.08 (1.05-1.11)***	1.07 (1.04-1.11)***
<i>Military variables</i>			
Service			
Royal Navy	0.68 (0.53-0.86)**	0.81 (0.63-1.04)	0.88 (0.68-1.14)
Army/Royal Marines	1	1	1
RAF	0.70 (0.57-0.86)**	0.88 (0.70-1.10)	0.96 (0.75-1.23)
Rank			
Officer	0.60 (0.46-0.80)***	0.72 (0.54-0.95)*	0.66 (0.50-0.89)**
NCO	1	1	1
Other rank	1.83 (1.54-2.18)***	1.28 (1.03-1.58)*	1.50 (1.17-1.93)**
Length of service (per year)	0.96 (0.95-0.97)***	0.97 (0.96-0.98)***	0.98 (0.97-0.99)***
Primary role			
Combat	1.45 (1.18-1.80)**	1.07 (0.85-1.33)	0.92 (0.73-1.16)
Combat support	0.91 (0.70-1.17)	0.91 (0.70-1.18)	0.90 (0.67-1.20)
Combat support services	1	1	1
Deployment on HERRICK/TELIC			
Yes	1	1	1
No	0.62 (0.53-0.73)***	0.74 (0.64-0.87)***	0.77 (0.65-0.92)**

⁶⁹ Adjusted for sex, pre-enlistment vulnerability, rank, method of leaving, length of service, relationship status, having children, and time after leaving. Does not include adjustment for education, due to co-linearity with rank.

⁷⁰ Adjusted for same factors and taking resettlement for those with entitlement.

<i>Category (n = 1,681)</i>	<i>Unadjusted IRR</i>	<i>Adjusted IRR (95% CI)</i>	<i>Adjusted for resettlement (95% CI)</i>
Method of leaving			
Planned	1	1	1
Unplanned	1.29 (1.01-1.64)*	0.98 (0.77-1.25)	1.15 (0.84-1.57)
<i>Post-service/current variables</i>			
Relationship status			
Single	1.50 (1.23-1.82)***	1.28 (1.06-1.55)*	1.33 (1.07-1.66)*
Long-term relationship	1	1	1
Has children			
Yes	1	1	1
No	1.01 (0.85-1.19)	0.90 (0.76-1.06)	0.86 (0.72-1.03)
Education⁷¹			
O-levels or less	1.22 (1.02-1.46)*	0.98 (0.79-1.20)	1.00 (0.81-1.23)
A-levels or more	1	1	1
<i>Resettlement</i>			
Entitlement to resettlement			
Yes	1	1	
No	1.76 (1.43-2.17)***	0.98 (0.76-1.26)	
Taking resettlement (for those with entitlement)			
Yes	1	1	
No	0.82 (0.64-1.06)	0.71 (0.55-0.91)**	

* p < 0.05 ** p < 0.01 *** p < 0.001

Sex was not a factor in rate of job change, but pre-enlistment vulnerability was, as was deployment to HERRICK/TELIC. Officers change job less often than NCOs, who change less often than other ranks. Longer service was associated with reduced rate of

⁷¹ Excludes commissioned officers, as almost all officers have higher education and hence education is effectively co-linear with rank for officers.

job change. After adjustment, method of leaving did not affect rate of job change. Being single increased rate of job change, but having children had no effect. Taking resettlement was significantly associated with changing job less often.

10.9 Longest period of unemployment

Longest reported period of unemployment was also analysed for associations with socio-demographic and military factors (Table 10-10). As described in Methods (Chapter 4.6.6), negative binomial regression was used (with time after leaving as the exposure variable) due to the Poisson-like distribution of this outcome variable (Figure 10-2), with length of service and pre-enlistment vulnerabilities as continuous linear variables.

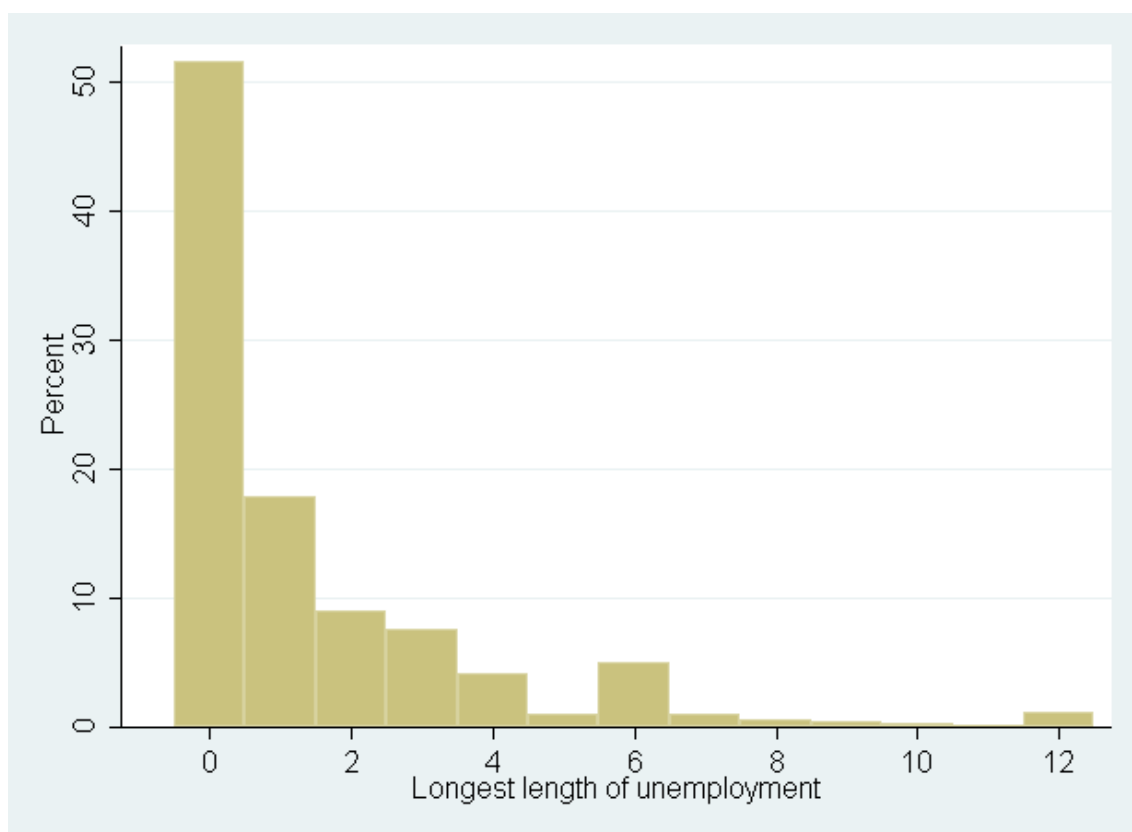


Figure 10-2 Longest length of unemployment (up to 12 months)

Table 10-10 Associations between longest period of unemployment and military and socio-demographic factors

<i>Category (n = 1,393)</i>	<i>Crude IRR (95% CI)</i>	<i>Adjusted IRR⁷² (95% CI)</i>
<i>Pre-enlistment variables</i>		
Sex		
Male	1	1
Female	1.41 (0.92-2.16)	1.32 (0.86-2.05)
Pre-enlistment vulnerability (per count)	1.05 (1.01-1.09)*	1.06 (1.00-1.11)*
<i>Military variables</i>		
Service		
Royal Navy	0.80 (0.56-1.14)	0.91 (0.62-1.34)
Army/ Royal Marines	1	1
RAF	0.79 (0.56-1.11)	0.78 (0.55-1.11)
Rank		
Officer	0.67 (0.47-0.97)*	0.73 (0.49-1.08)
NCO	1	1
Other rank	1.38 (1.03-1.85)*	1.29 (0.82-2.03)
Length of service (per year)	0.98 (0.97-1.00)*	1.00 (0.98-1.03)
Primary role		
Combat	1.78 (1.22-2.60)**	1.81 (1.24-2.65)**
Combat support	1.09 (0.73-1.60)	1.13 (0.75-1.70)
Combat support services	1	1
Deployment on HERRICK/TELIC		
Yes	1	1
No	0.72 (0.55-0.94)*	0.67 (0.52-0.88)**
Method of leaving		
Planned	1	1
Unplanned	1.91 (1.33-2.76)**	1.74 (1.20-2.52)**

⁷² Adjusted for sex, pre-enlistment vulnerability, rank, method of leaving, length of service, relationship status, and having children. Does not include adjustment for education, due to co-linearity with rank.

<i>Category (n = 1,393)</i>	<i>Crude IRR (95% CI)</i>	<i>Adjusted IRR (95% CI)</i>
<i>Post-service/current variables</i>		
Relationship status		
Single	1.61 (1.18-2.19)**	1.43 (1.04-1.97)*
Long-term relationship	1	1
Has children		
Yes	1	1
No	1.27 (0.96-1.67)	1.22 (0.91-1.62)
Education⁷³		
O-levels or less	1.28 (0.95-1.73)	1.09 (0.76-1.56)
A-levels or more	1	1
<i>Resettlement</i>		
Entitlement to resettlement		
Yes	1	1
No	2.01 (1.30-3.12)**	1.90 (1.07-3.38)*
Taking resettlement (for those entitled)		
Yes	1	1
No	1.83 (1.19-2.81)**	1.34 (0.90-2.02)

* p < 0.05

** p < 0.01

*** p < 0.001

Taking resettlement was not associated with shorter maximum periods of unemployment (though entitlement to resettlement was significant, even after adjustment for length of service and method of leaving). Single personnel and those who left in an unplanned way had longer maximum periods of unemployment. While length of service was associated with decreased maximum unemployment period in the unadjusted analysis, this association was no longer significant after adjustment

⁷³ Excludes commissioned officers, as almost all officers have higher education and hence education is effectively co-linear with rank for officers.

(primarily for rank). Deployment was associated with longer maximum unemployment, as were pre-enlistment vulnerability and having a combat role.

10.10 Comparison with hypotheses

Comparisons between employment-related hypotheses and findings are summarised in Table 10-11.

Table 10-11 Comparison of observations with hypotheses

Factors expected to be associated with employment outcomes	Observation
Being male	True, but due to the effect of having children - females with children were less likely to be currently employed/EER, while females without children were similar to males (χ^2 for employment between childless men and women = 0.031, 1 d.f., $p = 0.861$). Females did not show any difference in occupational transience or longest period of unemployment.
Being an NCO	Not true. While male officers had a lower likelihood of employment in the crude analysis, this effect was removed once other factors were considered. However, female officers were less likely to be employed. Officers had less occupational transience, while other ranks had higher occupational transience.
Being in a stable relationship	True – single personnel were less likely to be employed/EER (for males), showed higher occupational transience, and had longer maximum periods of unemployment.
Having children	Having children increases employment (but not EER) for men, but has the opposite effect (for both employment and EER) for women. No effect was seen with occupational transience or maximum unemployment period.
Resettlement	Taking resettlement had a positive effect on likelihood of employment/EER (for males), but significantly increased occupational transience. It had no effect on longest period of unemployment.
Time after leaving service	Those out of service for longer had higher rates of employment/EER.
Method of leaving service	Those who leave in an unplanned way are less likely to be employed/EER (at least for males), and have longer maximum periods of unemployment, than voluntary leavers. Occupational transience was not significantly different after adjustment.
Pre-enlistment vulnerability	No effect on current employment/EER. However, higher PEV was associated with occupational transience and longest period of unemployment.
Factors expected to have no association with employment outcomes	
Length of service	No effect on employment/EER or longest period of employment. Those who served longer showed less occupational transience.
Service arm	True for all employment outcomes (except that female ex-RAF personnel were less likely to be employed/EER).
Deployment	After adjustment, deployment has no effect on employment/EER. However, those who did not deploy to HERRICK/TELIC showed less occupational transience and shorter maximum periods of unemployment.
Role	Role has no effect on any employment outcome, after adjustment (except that former combat personnel had longer maximum periods of unemployment).

10.11 Summary

Resettlement generally seems to have a positive effect on employment-related outcomes: those who take resettlement are more likely to be employed (at least for males), and have shorter periods of longest unemployment. These effects are independent of simply being entitled to resettlement, which is a consequence of fulfilling several years of service and hence could indicate a basic level of competence and reliability.

Other factors also fulfil expectations with regards to post-Service employment. Being in a long-term relationship and leaving in a planned way are important for employment prospects, the latter irrespective of the loss of access to resettlement that may follow unplanned leaving. Having children reduces female employment, but has the opposite effect on men, and childless men and women are similar. Unplanned leaving was associated with worse current employment, and longer maximum period of unemployment, but not occupational transience.

Other factors did not prove to be important, despite expectations. Rank did not have the predicted effect – this is partly because previous analyses did not examine other dimensions of post-service activity nor the effect of resettlement (which is disproportionately accessible – particularly with regards to other ranks). The only effects of rank were relatively subtle, with more senior veterans changing job less often. PEV has no effect on current employment, but those with PEV appear to experience more difficulty staying in jobs.

Those factors expected to have no effect were indeed not significantly associated with employment. Length of service did not affect current employment, though longer-serving (and hence older) personnel change job less often. Those who deployed to

HERRICK/TELIC subsequently changed jobs more often, and had longer maximum periods of unemployment.

Chapter 11 Social Exclusion

In this chapter, I will consider outcomes related to social exclusion including housing, getting into trouble with legal authorities, and social integration.

11.1 Housing

Poor housing situations, and in particular homelessness, are difficult to measure as those in such a situation are difficult to reach by a postal survey. However, the questionnaire used in this study does contain certain housing-related variables which can indicate risk of poor housing situations. One question involves the respondent's current housing situation; responses to this question have been coded as owning their own house, those in relatively permanent rented accommodation, and those in temporary situations (see Methods 4.7.2). Another variable used here involves the number of places the respondent has lived in since leaving service (see Methods 4.7.3), which is used as an indicator of residential transience. Note that, in the following review, literature on homelessness is frequently used as a proxy for adverse housing outcomes, due to a lack of literature relating to the actual outcomes used in this thesis (e.g. temporary housing situations).

11.1.1 Existing literature on veteran housing

According to the NAO survey of Service leavers, satisfaction with post-service living arrangements was generally high: 87% reported being "satisfied", including 68% who were "very satisfied" (National Audit Office, 2007). Many Service personnel buy their own homes while they are serving; home ownership is facilitated by the MOD's Long Service Advance of Pay scheme, which awards those with at least four years' service to an interest-free advance of £8,500 repayable over 10 years. There are other UK schemes which facilitate entry into the property market which are not related to military service (such as the HomeBuy scheme launched October 2006). Additionally, the MOD provides briefings on renting and buying houses, which are generally positively viewed

(62% found them “useful” or “very useful”) but are poorly attended (only 12% of NAO survey respondents attended a housing briefing) (National Audit Office, 2007).

According to the 2009⁷⁴ Armed Forces Continuous Attitude Surveys of serving personnel, 75% of commissioned officers owned their home, with 39% of non-officers being home-owners (Ministry of Defence, 2009a). The NAO’s survey of post-service personnel showed that 89% of officers owned their homes prior to leaving service, as did 83% of senior NCOs and 25% for other ranks (average 61% for all respondents).

Of those who did not purchase their own homes prior to discharge, the NAO survey found that 23% had purchased their home between leaving and the time of survey, 32% were living with relatives (many of which are young Early Service Leavers), and 20% were in private rented accommodation. The remaining 25% were living in social housing, staying with friends, or had some other arrangement.

The NAO survey was postal, and hence likely to miss those who were homeless or in temporary housing. Some attempts have been made to estimate the homeless veteran population. One attempt to measure the scale of the issue in the 1990s, by the homeless charity “Crisis”, involved 73 participants and revealed that 25% of its sample (taken from four hostels and two day centres) claimed to have served in the Armed Forces. Many of these were long-term homeless, and most had become homeless within a year of leaving the Forces (Randall, 1994). Another, by the Ex-Service Action Group on homelessness, found that a similar proportion of street homeless to be ex-Services (22%), and again tended to have been homeless for longer than civilians (Gunner and Knott, 1997).

⁷⁴ These data were selected as being most representative of the time of data collection.

These are high proportions for veteran homelessness, but are based on small samples. They should be treated with caution; some individuals exaggerate or invent their service history (Frueh et al., 2005; Baggaley, 1998). Recent reports have indicated much lower proportions; a 2008 report estimated 6% of the single homeless population of London were ex-Service (University of York Centre for Housing Policy, 2008), with a 2010 estimate placing the figure at around 3% (Broadway Homelessness and Support, 2010). As these measures are specific to London, it is difficult to draw any firm conclusions on whether veterans are more likely to become homeless; however, given these most recent figures and the fact that 9% of the population of England are veterans (Woodhead et al., 2009), it would seem that there is no reason to think that veterans are at particular risk overall compared with civilians.

Homelessness among US veterans seems to show similar proportions to the older UK figures: a literature review of 11 US-based surveys of homeless adults found proportions claiming prior military service between 18-51% (Robertson, 1987), in the same range as the older UK studies above. Rosenheck's use of data from four US surveys in the late 1980s showed that veterans were more at risk of homelessness than the general population. There was a bimodal aspect to this, with younger (20-34 years) and older (45-54 years) veterans being more at risk. This analysis showed that veterans who became homeless were more likely to have served in non-wartime eras, particularly post-Vietnam – this would seem to mitigate against any effect of wartime stress. Rosenheck speculated that this may be related to the establishment of the All Volunteer Force in 1973, which caused a shift in recruitment toward lower socio-economic groups. This post-Vietnam “bulge” is the main reason why veterans were overrepresented in the US homeless population at that time (Rosenheck et al., 1994), although this does not seem to be combat-related – proportions serving in-theatre, as well as those exposed to combat, were similar to the non-homeless veteran population

(Rosenheck et al., 1991). Interestingly, this immediate post-Vietnam subgroup, representing the early entrants into the All Volunteer Force, continued to suffer higher homelessness than other demographics, indicating specific issues with the introduction of this policy and its early recruits (Gamache et al., 2001).

11.1.2 Effects of pre-military variables

Sex

There is relatively little research considering the role of sex in homelessness among veterans. A US study found that female veterans are more at risk of homelessness than female civilians (Gamache et al., 2003), but this does not indicate that female veterans are more at risk of homelessness than male veterans. The fact that females leave service after shorter terms may cause them to be more at risk (see Length of Service below), but this does not mean that sex itself is a risk factor.

A survey of young (aged 16-24 years) homeless people across the UK showed that they were more likely to be female (Quilgars et al., 2008), though that population was younger than the ex-Service population. A survey in Sheffield of 340 single homeless people surveyed in a single day (by entering hostels, day centres etc.) showed that females made up 14% of the sample (Shanks et al., 1994). Differences in methodologies can explain how studies arrive at disparate figures; a 1997 review of the British homeless population noted the difference between “official” homeless (identified and accepted as homeless by local government), of which slightly more are female, and “unofficial” homeless (hostel dwellers and rough sleepers) who are predominantly male (Victor, 1997). As this thesis analyses data collected via a postal survey, it is more likely to miss the “unofficial” homeless; however, the gender imbalance is smaller for the “official” homeless group, so there is no reason to expect that females are overall at higher risk of poor housing outcomes.

Hypothesis: Men and women will be at similar risk of adverse housing outcomes (i.e. living in more temporary accommodation, moving often indicating difficulty settling).

Pre-enlistment vulnerability

Studies into the causes of homelessness in the US veteran population have shown that separation from family, delinquency, and running away from home are associated with post-service homelessness (Susser et al., 1987). Childhood physical or sexual abuse, childhood trauma, and placement in foster care are also associated with homelessness (Rosenheck and Fontana, 1994b). Little research exists as regards pre-enlistment vulnerability and homelessness among UK veterans, but there is no reason to think the UK experience differs.

Hypothesis: Those with higher PEV are more likely to report adverse housing outcomes.

11.1.3 Effects of military variables

Rank

As stated above, according to the 2009 Armed Forces Continuous Attitude Surveys of serving personnel, most officers own their own homes, but only a minority of junior ranks are home-owners (Ministry of Defence, 2009a); the NAO's survey of post-service personnel showed a similar difference between ranks. The NAO speculated that those nearing the end of their military career were more likely to own a home – in other words, the difference was at least partly due to age/length of service (National Audit Office, 2007).

Hypothesis: Lower ranks will be more likely to report adverse accommodation outcomes, though this effect may be removed by adjustment for length of service/age.

Service arm

According to the Armed Forces Continuous Attitude Survey, Army personnel were significantly less likely than other services to own their own home while in service (36% compared with 63% among Royal Navy personnel and 55% among RAF personnel) (Ministry of Defence, 2009b). The NAO speculated that such difference may be due to the requirement for Army personnel to move more frequently (National Audit Office, 2007).

Hypothesis: Army personnel are more likely to report adverse housing outcomes.

Deployment and role

As discussed above, studies of Vietnam-era veterans showed that serving in-theatre and being exposed to combat were not related to homelessness (Rosenheck et al., 1991).

Hypothesis: Deployment and role will not be associated with post-service housing.

Method of Leaving

One study of US veterans found that those punitively discharged were considerably more likely to become homeless (though this still only accounted for a small fraction of the homeless veteran population due to the small numbers discharged in such a way). The author of the relevant study noted that such discharges are associated with pre-military factors, rather than military experiences, so discharge as a risk factor may merely reflect existing pre-enlistment vulnerabilities. Findings of this study should be put in the context that the veteran subject group were recruited from veterans with mental illness enrolled in a support program (Gamache et al., 2000).

Hypothesis: Unplanned leavers will report more adverse housing outcomes.

Age/Length of service

An interview study of homeless ex-Service personnel in London found that most had served in the Army, were, on average age, 48 years of age, and had served a short average length of service (4.5 years) (Milroy, 1998). A feasibility study by Dandeker to develop methods for future study of the issue of veteran homelessness concluded that, compared with their civilian counterparts, veterans are older, and those at risk for homelessness are those who leave early (after failing basic training) as well as those who have been in the Services long-term and struggle to make a transition (Dandeker et al., 2004). The UK Ex-Service Action Group found the reasons for becoming homeless were similar to their civilian counterparts – breakdown of relationships and unemployment (Gunner and Knott, 1997).

Together, this evidence suggests a bimodal distribution, comprising a group of young personnel who served short times being at risk on discharge, and another group of older, longer-serving veterans at risk as a result of unemployment and/or relationship breakdown (sometimes long after leaving the Services). The latter are likely to be missed in this thesis, as most respondents left service relatively recently.

Hypothesis: Younger, shorter-serving personnel will report adverse housing outcomes.

Resettlement

While the MoD and other government departments provide certain forms of support as regards in- and post-service housing, housing matters do not form a large part of the resettlement package provided to eligible service leavers. As previously described, resettlement is primarily concerned with improving employment outcomes, under the assumption that positive housing outcomes will follow positive employment outcomes, and only a small number of those taking resettlement attend housing-related briefs. Consequently, resettlement itself would not be expected to have any effect on housing

Hypothesis: Resettlement will not be associated with housing outcomes.

11.1.4 Effects of post-service/current situation variables

Time after leaving

The NAO survey showed that 23% of those who did not own a home at time of discharge had purchased one by the time of survey (National Audit Office 2007). There is no indication of how many sold their homes and moved to rented accommodation after leaving; nonetheless, this figure and the fact that personnel no longer have to move due to in-Service postings mean it is reasonable to expect that rates of home ownership will rise after leaving. As noted above, some become homeless long after leaving – however, the NAO survey does not include many who have left more than a few years ago.

Hypothesis: Housing outcomes will improve with time after leaving.

Education

Lower educational attainment is associated with homelessness among US veterans (Washington et al., 2010). Again, while education is rarely considered as a factor in UK veteran homelessness, there is no reason to think the UK experience differs, and poor education is a factor in becoming homeless for the UK population in general (Pleace et al., 2008; Quilgars et al., 2008).

Hypothesis: More educated respondents will be less likely to suffer adverse housing.

Relationship status

Relationship breakdown is one of the reasons why UK ex-service personnel become homeless (as it is with their civilian counterparts) (Gunner and Knott, 1997). The NAO

survey of UK Service leavers found that, of 967 single personnel⁷⁵, 412 were living in temporary accommodation⁷⁶ (42.6%) compared with 383 of 3,878 (9.9%) of those in a relationship. Marriage is similarly protective against homelessness in the US (Washington et al., 2010).

Hypothesis: Single personnel are more likely than those in long-term relationships to report adverse housing outcomes.

Having Children

Few studies consider the effect of having children separately from the effect of marital status. Stable relationships are protective against homelessness (as explained above); children may increase that effect due to greater obligations, both of parents towards children and local governments towards parents with children (parents with children are treated as higher priority for local government-provided housing), and to spread the financial and time costs of child-rearing (Cherlin, 1977).

Hypothesis: Having children will be associated with better housing (although this may be partly due to relationship status).

⁷⁵ Including separated, divorced and widowed respondents.

⁷⁶ Defined as those staying with relatives (the majority), in hostels, bed & breakfasts, student accommodation, staying with friends, and sleeping rough.

11.1.5 Summary of expected effects: housing

The hypotheses regarding ex-Service housing are summarised in Table 11-1.

Table 11-1 Summary of hypotheses regarding housing

<i>Effect</i>	<i>Factor</i>
These factors are associated with reporting adverse housing outcomes	Pre-enlistment vulnerability
	Lower rank
	Army personnel
	Unplanned leaving
	Shorter service
	Short time after leaving
	Being less educated
	Being single
	Not having children
No association	Resettlement
	Sex
	Deployment
	Role

11.2 Current accommodation

Table 11-2 shows the results of multinomial analysis of veterans' housing situations. For the purpose of this analysis, current housing is reduced to three categories – living in own home, living in a rented property (private or local government), or living in a temporary situation (i.e. hostel, B&B, or temporarily with friends or family).

Table 11-2 Multinomial analysis of associations between current living arrangements and socio-demographic and military variables

<i>Category (n = 1,698)</i>	<i>Number in own home⁷⁷ (%)</i>	<i>Number in rented housing (%)</i>	<i>Number in temporary housing (%)</i>	<i>RRR living in rented housing (95% CI)</i>	<i>RRR living in temporary housing (95% CI)</i>	<i>Adjusted RRR rented housing (95% CI)⁷⁸</i>	<i>Adjusted RRR temporary housing (95% CI)⁷⁹</i>
All	1,163 (64.5%)	428 (27.8%)	107 (7.7%)				
<i>Pre-enlistment variables</i>							
Sex							
Male	1,065 (65.5%)	367 (26.8%)	96 (7.8%)	1	1	1	1
Female	98 (54.7%)	61 (38.1%)	11 (7.2%)	1.71 (1.21-2.41)**	1.11 (0.57-2.15)	1.34 (0.86-2.09)	0.49 (0.20-1.24)
Pre-enlistment vulnerability (per score)				1.08 (1.04-1.13)***	1.11 (1.03-1.20)**	1.06 (1.01-1.12)*	1.11 (1.01-1.21)*
<i>Military variables</i>							
Service							
Royal Navy	201 (71.4%)	52 (22.8%)	12 (5.9%)	0.61 (0.43-0.86)**	0.58 (0.30-1.11)	0.67 (0.44-1.01)	0.69 (0.31-1.55)
Army/Royal Marines	678 (60.0%)	306 (31.5%)	76 (8.5%)	1	1	1	1
RAF	284 (72.9%)	70 (20.3%)	19 (6.8%)	0.53 (0.39-0.72)***	0.66 (0.38-1.12)	0.55 (0.37-0.81)**	0.78 (0.51-1.49)

⁷⁷ Baseline group for multinomial logistic regression.

⁷⁸ Adjusted for pre-enlistment vulnerability, Service arm, rank, length of service, method of leaving, time since leaving, relationship status, and having children. Although it is expected to have an effect on housing, education is not included due to co-linearity with rank among officers.

⁷⁹ Adjusted for same factors as above.

<i>Category (n = 1,698)</i>	<i>Number in own home (%)</i>	<i>Number in rented housing (%)</i>	<i>Number in temporary housing (%)</i>	<i>RRR living in rented housing (95% CI)</i>	<i>RRR living in temporary housing (95% CI)</i>	<i>Adjusted RRR rented housing (95% CI)</i>	<i>Adjusted RRR temporary housing (95% CI)</i>
Rank							
Officer	250 (79.5%)	50 (17.4%)	9 (3.1%)	0.81 (0.57-1.14)	0.55 (0.26-1.15)	0.95 (0.64-1.43)	0.55 (0.22-1.39)
NCO	781 (74.6%)	201 (20.1%)	47 (5.3%)	1	1	1	1
Other rank	132 (34.3%)	177 (50.2%)	51 (15.5%)	5.43 (4.11-7.17)***	6.36 (4.07-9.92)***	2.51 (1.72-3.66)***	1.86 (0.97-3.58)
Length of service as a regular (per year)				0.90 (0.89-0.91)***	0.86 (0.83-0.89)***	0.93 (0.92-0.95)***	0.90 (0.86-0.94)***
Role in parent unit							
Combat	183 (50.9%)	115 (38.3%)	31 (10.8%)	2.24 (1.67-2.99)***	2.64 (1.60-4.35)***	1.13 (0.78-1.66)	1.25 (0.62-2.49)
Combat Support	107 (58.3%)	52 (34.7%)	10 (7.1%)	1.78 (1.22-2.59)**	1.50 (0.72-3.13)	1.63 (1.05-2.53)*	1.21 (0.46-3.17)
Combat Support Services	666 (70.6%)	201 (23.7%)	43 (5.7%)	1	1	1	1
Deployment on HERRICK/TELIC							
Yes	617 (61.8%)	249 (28.7%)	76 (9.4%)	1	1	1	1
No	546 (68.0%)	179 (26.6%)	31 (5.4%)	0.84 (0.67-1.06)	0.52 (0.33-0.82)**	1.48 (1.10-1.99)*	0.90 (0.50-1.60)
Method of leaving							
Planned	1,022 (66.6%)	352 (26.5%)	82 (7.0%)	1	1	1	1
Unplanned	84 (45.1%)	63 (42.3%)	18 (12.6%)	2.36 (1.65-3.37)***	2.66 (1.50-4.71)**	2.03 (1.35-3.06)**	2.19 (1.14-4.20)*

<i>Category (n = 1,698)</i>	<i>Number in own home (%)</i>	<i>Number in rented housing (%)</i>	<i>Number in temporary housing (%)</i>	<i>RRR living in rented housing (95% CI)</i>	<i>RRR living in temporary housing (95% CI)</i>	<i>Adjusted RRR rented housing (95% CI)</i>	<i>Adjusted RRR temporary housing (95% CI)</i>
Post-service/current variables							
Time after leaving (years)				0.73 (0.62-0.86)***	0.44 (0.33-0.60)***	0.65 (0.53-0.80)***	0.38 (0.27-0.54)***
Relationship status							
Single	136 (37.3%)	133 (42.8%)	56 (19.9%)	3.41 (2.58-4.51)***	8.20 (5.33-12.61)***	3.37 (2.42-4.71)***	7.73 (4.52-13.20)***
Long-term relationship	1,026 (71.3%)	295 (24.0%)	51 (4.7%)	1	1	1	1
Has children							
Yes	609 (72.3%)	177 (23.2%)	33 (4.6%)	1	1	1	1
No	482 (56.5%)	228 (32.6%)	69 (10.9%)	1.80 (1.42-2.28)***	3.04 (1.95-4.72)***	1.25 (0.93-1.66)	1.51 (0.88-2.60)
Education⁸⁰							
O-levels or less	402 (55.9%)	211 (34.7%)	52 (9.4%)	1.68 (1.30-2.16)***	1.44 (0.93-2.23)	1.22 (0.90-1.67)	1.07 (0.62-1.86)
A-levels or more	459 (67.3%)	152 (24.9%)	42 (7.8%)	1	1	1	1

⁸⁰ Excludes commissioned officers, as almost all officers have higher education and hence education is effectively co-linear with rank for officers.

<i>Category (n = 1,698)</i>	<i>Number in own home (%)</i>	<i>Number in rented housing (%)</i>	<i>Number in temporary housing (%)</i>	<i>RRR living in rented housing (95% CI)</i>	<i>RRR living in temporary housing (95% CI)</i>	<i>Adjusted RRR rented housing (95% CI)</i>	<i>Adjusted RRR temporary housing (95% CI)</i>
<i>Resettlement</i>							
Entitlement to resettlement							
Yes	1,079 (70.3%)	323 (23.4%)	77 (6.3%)	1	1	1	1
No	84 (35.3%)	105 (49.9%)	30 (14.8%)	4.25 (3.08-5.87)***	4.66 (2.86-7.60)***	1.19 (0.78-1.83)	0.72 (0.36-1.45)
Taking resettlement (for those with entitlement)							
Yes	909 (73.0%)	244 (21.4%)	57 (5.6%)	1	1	1	1
No	108 (56.9%)	52 (31.7%)	15 (11.3%)	1.90 (1.32-2.74)**	2.59 (1.40-4.79)**	1.53 (0.96-2.44)	2.04 (0.91-4.60)

* p < 0.05 ** p < 0.01 *** p < 0.001

Findings from this analysis were:

- Sex is not associated with current accommodation after adjustment for length of service.
- PEV is associated with not owning a home, even after adjustment.
- Ex-RAF personnel were less likely to rent their home than those from the Army.
- Other ranks were more likely to rent, though the size of the effect was reduced by adjustment for length of service.
- Longer length of service was associated with home ownership (as opposed to renting or living in temporary circumstances).
- Those who deployed to HERRICK/TELIC were more likely to be living in rented accommodation; the change in deployment effect size between unadjusted and adjusted odds ratios was mostly due to adjustment for length of service.
- Role had only a small effect, with the only significant finding after adjustment (primarily for length of service, rank and Service arm) being that combat support personnel were more likely to rent.
- Unplanned leavers were less likely to own their own homes, even after adjustment.
- Time after leaving was significant in the quadratic model – home ownership increased in the short term (the linear term), but reduced for higher time since leaving (the quadratic term, not shown).

- Being single was associated with living in rented or temporary accommodation, while having children was not associated with any outcome.
- No dimensions of resettlement were significant.

11.3 Residential transience

Table 11-3 considers a different aspect of housing – how many times the respondent has moved house. This may be indicative of difficulty finding settled housing. As this variable has a Poisson-like distribution dominated by those who have never moved house (as many are home-owners and have only recently left service) (Figure 11-1), this variable is modelled using a negative binomial regression, with time since leaving as an exposure variable (as described in Chapter 4.7.3).

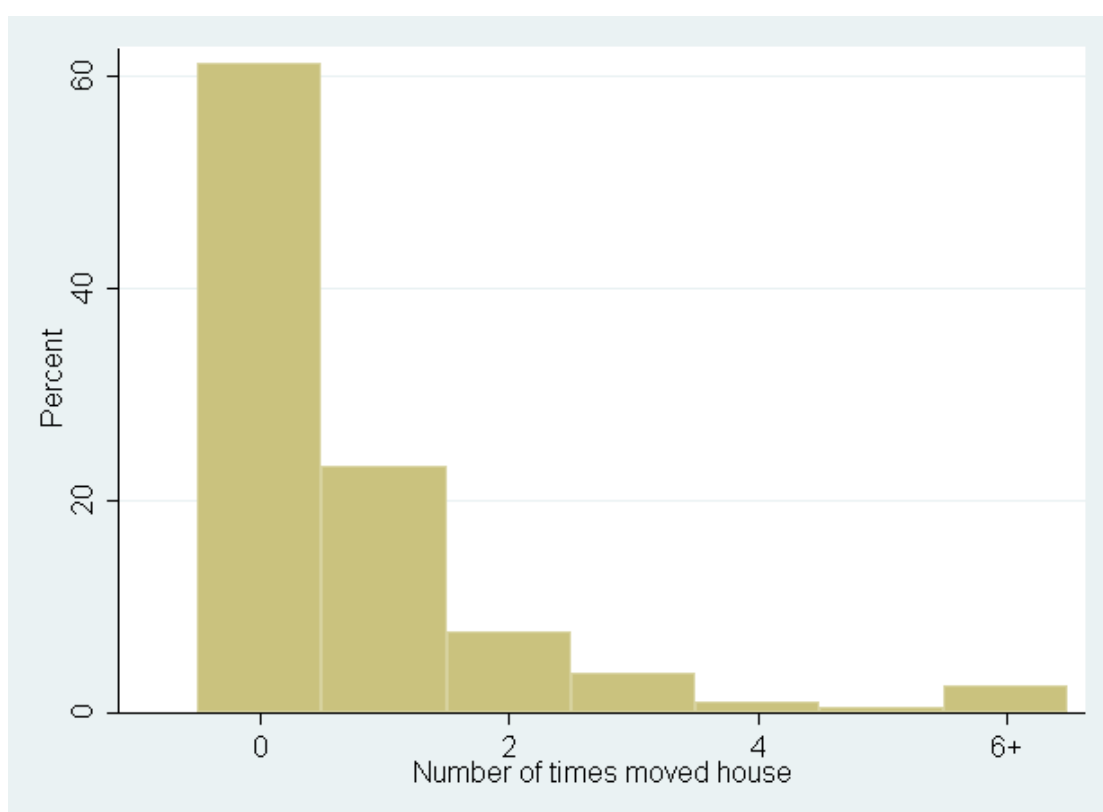


Figure 11-1 Occupational transience

Table 11-3 Associations between occupational transience and socio-demographic and military factors

<i>Category (n = 1,675)</i>	<i>Crude IRR (95% CI)</i>	<i>Adjusted IRR⁸¹ (95% CI)</i>
<i>Pre-enlistment variables</i>		
Sex		
Male	1	1
Female	1.16 (0.90-1.50)	0.99 (0.76-1.29)
Pre-enlistment vulnerability (per count)	1.09 (1.05-1.12)***	1.09 (1.05-1.12)***
<i>Military variables</i>		
Service		
Royal Navy	0.63 (0.49-0.80)***	0.79 (0.62-1.00)*
Army/Royal Marines	1	1
RAF	0.66 (0.52-0.83)***	0.91 (0.73-1.15)
Rank		
Officer	1.16 (0.92-1.47)	1.45 (1.16-1.82)**
NCO	1	1
Other rank	1.78 (1.47-2.15)***	0.84 (0.67-1.05)
Length of service as a regular (per year)	0.94 (0.93-0.95)***	0.94 (0.93-0.95)***
Role in parent unit		
Combat	1.45 (1.16-1.81)**	1.02 (0.79-1.31)
Combat Support	1.32 (0.98-1.78)	1.12 (0.83-1.51)
Combat Support Services	1	1
Deployment on HERRICK/TELIC		
Yes	1	1
No	0.70 (0.59-0.83)***	0.92 (0.77-1.10)
Method of leaving		
Planned	1	1
Unplanned	1.74 (1.34-2.25)***	1.37 (1.08-1.73)*

⁸¹ Adjusted for pre-enlistment vulnerability, Service arm, rank, length of service, method of leaving, relationship status, and having children (and using time since leaving as the exposure variable).

<i>Category (n = 1,675)</i>	<i>Crude IRR (95% CI)</i>	<i>Adjusted IRR (95% CI)</i>
<i>Post-service/current variables</i>		
Relationship status		
Single	1.86 (1.52-2.28)***	1.39 (1.12-1.72)**
Long-term relationship	1	1
Has children		
Yes	1	1
No	1.37 (1.15-1.64)**	1.21 (1.00-1.45)*
Education⁸²		
O-levels-	1.24 (1.01-1.51)*	0.98 (0.80-1.20)
A-levels+	1	1
<i>Resettlement</i>		
Entitlement to resettlement		
Yes	1	1
No	1.73 (1.38-2.17)***	0.89 (0.69-1.15)
Taking resettlement (for those entitled)		
Yes	1	1
No	1.22 (0.91-1.64)	0.99 (0.75-1.31)

* p < 0.05 ** p < 0.01 *** p < 0.001

Females are not more likely to move house than males. Those with higher PEV are more likely to move, even after adjustment for other variables. Moving house varied across Service arms in the unadjusted analysis, though only ex-Navy personnel moved less often than the baseline (Army personnel) in the adjusted analysis (due to adjustment for PEV and length of service). Longer-serving personnel moved house less frequently.

In the unadjusted analysis, other ranks moved more often commissioned or non-commissioned officers; however, after adjustment (primarily for length of service and

⁸² Excludes commissioned officers, as almost all officers have higher education and hence education is effectively co-linear with rank for officers.

pre-enlistment vulnerability) other ranks are similar to non-commissioned officers, but officers move more often. Deployment had no effect after adjustment (primarily for length of service). Role had no effect after adjustment for length of service. Unplanned leavers moved house more frequently (though the effect was reduced by adjustment for length of service and PEV).

Single personnel and those without children moved more often, even after adjustment (though the effects of both were reduced by adjustment for length of service, and the effect of having children was also reduced by adjustment for relationship status). Resettlement had no effect on residential transience.

11.3.1 Home ownership as an explanatory variable for residential transience

Since home ownership itself could explain why some groups have less residential transiency (i.e. those who own their home will move less often), the above analysis was performed including adjustment for home ownership (treating rental and temporary accommodation as equivalent) (Appendix 3). The results remain comparable. The differences were that other ranks were significantly less likely to move home than NCOs (though officers still moved more often); ex-Navy personnel were no longer different; unplanned leavers no longer showed higher residential transience; and single personnel were no longer more likely to move home.

11.3.2 Comparison with hypotheses: housing

An overall comparison of hypotheses with observed results is shown in Table 11-4.

Table 11-4 Comparison of observed associations between housing and *a priori* hypotheses

<i>Factor</i>	<i>Effect</i>
Factors predicted to be associated with adverse housing outcomes	
Pre-enlistment vulnerability	Higher PEV scores were associated with being less likely to be a home owner and move more often.
Lower rank	Other ranks were more likely to rent than own their own homes. However, officers moved more often than other ranks or NCOs (with other ranks moving less often than NCOs after adjustment for home ownership).
Army personnel	Ex-RAF personnel were less likely to rent their homes, while ex-Naval personnel moved less often (though this effect was removed by adjustment for home ownership).
Unplanned leavers	Unplanned leavers were less likely to be home-owners and moved house more often (though the latter effect was removed by adjustment for home ownership).
Shorter service	Shorter service was associated with not owning a home and moving more often
Short time after leaving	Those who left more recently were less likely to own their homes.
Being less educated	No effect.
Being single	Single veterans were less likely to own their own homes and moved more frequently (though the latter effect was not significant after adjustment for home ownership).
Not having children	Childless veterans were not less likely to own their own homes, but did move more often.
Predicted to have no association	
Resettlement	No effect on housing or residential transience
Sex	No association with any housing outcome or residential transience
Deployment	Those who had deployed were less likely to be in rental accommodation. Deployment made no difference to residential transience.

11.4 Crime

The survey contains a single question “Have you been in trouble with the police/law since you left (excluding speeding/parking offences)?” (see Chapter 4.7.4).

11.4.1 Veterans and crime

Veterans becoming socially excluded and turning to crime is a common theme in the media (Verkaik, 2010; McVeigh, 2010; Pemberton, 2010). Estimates of the scale of the problem vary widely - the Ministry of Defence-sponsored Prison In-Reach Program placed the proportion of prisoners who were veterans at 17%, but this was based on a pilot study of a single prison (HMP Dartmoor) (Veterans World, 2007). The National Association of Probation Officers estimated that there were 8,500 ex-Service personnel in UK prisons (8.5% of the prison population) (Fletcher, 2008), and a further 12,000 under the supervision of the Probation Service (Fletcher, 2009). Home Office surveys of 2000 prisoners at the point of release in 2001, 2003 and 2004 found proportions with a previous Armed Forces background of 6%, 4% and 5% respectively (Hansard, 2010).

A later, more thorough analysis by the MoD’s Defence Analytical Services and Advice (DASA) matched Service records to prisoner details, and estimated that the proportion of prisoners who are veterans is 3.5% (Ministry of Defence, 2010a) – this would seem to be the best estimate currently available. Veterans make up around 9% of the population of England (from 2007 figures it was estimated 3.8 million ex-Service personnel in an adult population of 41 million (Woodhead et al., 2009)). DASA found that civilians were significantly more likely than the veterans to be in prison (odds ratio 1.66, age-adjusted odds ratio 1.43) (Ministry of Defence, 2010a). This is also found in the US, where veterans were less than half as likely to be incarcerated compare with other adult males (incarceration rates among adult males were 630 per 100,000 for veterans, against 1,390 per 100,000 for nonveterans) (Noonan and Mumola, 2004).

11.4.2 Factors associated with veteran crime

Experiences in early life are often considered factors in later criminality. One study showed that incarceration of US Vietnam veterans was associated with childhood adversity and Army infantry service (Boivin, 1987). Another survey of 74 Vietnam veterans found that a legal history of violence was predicted by exposure to abusive violence (Peralme, 1996). An analysis of the Vietnam Era Veteran Twin Registry showed that twins' common environment significantly influenced their early criminal behaviour, but this influence does not persist after the individual has left that environment (Lyons, 1996). Together, these all indicate that pre-enlistment vulnerability will give rise to criminality (though with the possibility that effects recede as the individual leaves the abusive environment).

Otherwise, risk factors for incarceration of veterans are the same as for civilians; mental health problems, being unmarried, being less educated, and being younger (Greenberg and Rosenheck, 2009). Longer time since leaving would also be expected to be associated with encountering legal difficulty, simply because more time provides more opportunities to encounter problems. Given the lack of previous studies on associations between socio-demographic/military factors and crime within a UK veteran population, however, the adjusted model in this case will be data-driven; factors included in the adjusted model will be those which are significant when unadjusted.

A priori hypotheses arising from this literature are summarised in Table 11-5. Observed associations between legal difficulty and socio-demographic and military factors are analysed in Table 11-6. Length of service and time after leaving were applied as continuous variables (see Chapter 4.7.7). Due to the low frequency of legal difficulty among females and officers (only one female respondent and one commissioned officer reported such difficulty), these individuals were excluded. Due to small numbers RAF

and Royal Navy are combined, and Combat Support was merged with Combat Support Services.

Table 11-5 Summary of hypotheses regarding legal trouble

<i>Effect</i>	<i>Factor</i>
Factors associated with experiencing legal trouble	Pre-enlistment vulnerability
	Army/Royal Marine personnel
	Shorter service
	Lower educational attainment
	Being single
	Not having children
	Longer time since leaving
No prediction (adjustment will be data-driven)	Resettlement
	Lower rank
	Unplanned leaving
	Deployment
	Role

Table 11-6 Associations between legal difficulty and socio-demographic and military factors

<i>Category (n = 1,534)</i>	<i>Legal trouble (%⁸³)</i>	<i>Unadjusted OR</i>	<i>Adjusted OR⁸⁴</i>
Total	71 ⁸⁵ (5.5)		
<i>Pre-enlistment variables</i>			
Pre-enlistment vulnerability (per score)		1.19 (1.11-1.27)***	1.13 (1.04 -1.24)**
<i>Military variables</i>			
Service			
Army/Royal Marines	64 (8.7)	1	1
Royal Navy/RAF	7 (1.7)	0.18 (0.08-0.41)***	0.21 (0.07-0.61)**
Rank			
NCO	33 (4.0)	1	1
Other rank	38 (11.4)	3.09 (1.89-5.05)***	1.26 (0.61-2.62)
Length of service (per year)		0.88 (0.85-0.92)***	0.93 (0.88-0.98)**
Role in parent unit			
Combat	31 (12.3)	3.45 (2.04-5.82)***	1.71 (0.87-3.34)
Combat Support/Combat Services Support	30 (4.2)	1	1
Deployment on HERRICK/TELIC			
Yes	39 (5.8)	1	1
No	32 (7.2)	1.15 (0.71-1.85)	1.89 (0.95-3.79)
Method of leaving			
Planned	48 (4.9)	1	1
Unplanned	20 (18.9)	4.57 (2.61-8.03)***	3.83 (1.76-8.33)**

⁸³ Response weighted.

⁸⁴ Adjusted for pre-enlistment vulnerability, Service arm, rank, length of service, relationship status, having children and time after leaving.

⁸⁵ Excludes females and officers.

<i>Category (n = 1,534)</i>	<i>Legal trouble (%)</i>	<i>Unadjusted OR</i>	<i>Adjusted OR</i>
<i>Post-service/current variables</i>			
Relationship status			
Single	27 (11.6)	2.51 (1.50-4.17)***	2.75 (1.46-5.18)**
Long-term relationship	44 (5.0)	1	
Has children			
Yes	32 (5.6)	1	1
No	35 (7.2)	1.32 (0.81-2.17)	1.02 (0.50-2.10)
Time after leaving (per year)		1.18 (1.03-1.34)*	1.23 (1.05-1.45)*
Education			
O-levels-	46 (8.4)	1.94 (1.16-3.25)*	0.82 (0.42-1.58)
A-levels+	24 (4.5)	1	1
<i>Resettlement</i>			
Entitlement to resettlement			
Yes	51 (5.3)	1	1
No	20 (10.9)	2.17 (1.25-3.77)**	0.62 (0.27-1.43)
Taking resettlement (for those with entitlement)			
Yes	33 (4.3)	1	1
No	11 (10.3)	2.58 (1.25-5.32)*	1.74 (0.61-4.98)

* p < 0.05 ** p < 0.01 *** p < 0.001

As expected, those with higher PEV, who had served in the Army, served for a shorter period, and who were single were more likely have encountered trouble with the law. Unplanned leavers were also more likely to experience legal difficulties. Rank did not have an effect after adjustment for other factors (particularly length of service). Role did not have any effect after adjustment for length of service and Service arm. Although single personnel were more likely to have experienced legal difficulty, having children had no effect. Those with lower educational attainment were more likely to encounter legal trouble in the unadjusted analysis, but not after adjustment (primarily for length of service). Resettlement did not affect subsequent legal difficulty after adjustment (for multiple factors, particularly PEV, length of service and relationship status). Comparisons with hypotheses are shown in Table 11-7.

Table 11-7 Legal difficulty: comparison with hypotheses

<i>Factor</i>	<i>Effect</i>
Factors predicted to be associated with legal difficulty	
Pre-enlistment vulnerability	More likely to encounter legal difficulty
Army/Royal Marine personnel	More likely to encounter legal difficulty
Shorter service	More likely to encounter legal difficulty
Being less educated	No association after adjustment
Being single	More likely to encounter legal difficulty
Not having children	No association after adjustment
Longer time since leaving	More likely to encounter legal difficulty
No predicted association	
Resettlement	No association after adjustment
Lower rank	No association after adjustment
Unplanned leaving	More likely to encounter legal difficulty after adjustment
Deployment	No association
Role	No association after adjustment

11.5 Social integration

Social integration is commonly considered to comprise involvement with/attachment to other people through participation in social activities and networks (Bott, 1957). Military service has been linked with difficulties in social reintegration: a study of returnees from the Gulf War showed that, after an average length of service, 19% of soldiers reported moderate or severe adjustment problems, and most reported at least some difficulty in adjusting back to family life (Figley, 1993). A recent study with the KCMHR Iraq cohort showed that those who had left service participated less in social activities than those who were still in service (Hatch et al., 2013).

As described in Methods (Chapter 4.7.5 and 4.7.6), two outcome variables were generated to enable analysis of social integration: number of social activities and size of social network.

Pre-service variables

Adolescent affect (i.e. mood, particularly anxiety and sadness) can negatively impact social integration in adult life (Hatch and Wadsworth, 2008). Consequently it would be expected that higher PEV would be associated with lower social integration scores.

Studies have indicated that females participate in fewer social groups, but have similarly-sized social networks to men (Booth, 1972; Dunbar and Spoors, 1995). Thus, females may appear to undertake fewer social activities, but are not expected to differ from men with regards to social network size.

Military variables

Social integration tends to reduce as individuals age (Marsden, 1987; Cornwell, 2011). Hence it would be expected that, as length of service increases, social integration will decrease. Relationships between other military factors (deployment, combat, Service

arm etc.) and social integration are rarely considered in the existing literature; inclusion in the adjusted model will be data-driven for these variables.

Post-military variables

Given the effect of aging, it would be expected that increasing time after service would be associated with reduced social integration. Entering into a long-term relationship tends to cause withdrawal from friends (Johnson and Leslie, 1982), so it would be expected that those in long-term relationships would show lower social participation .

There is little literature regarding any potential effect of resettlement, education, having children, and method of leaving. Consequently, for these variables, inclusion in the adjusted model will be data-driven.

These hypotheses are summarised in Table 11-8.

Table 11-8 Summary of hypotheses regarding social integration

<i>Effect</i>	<i>Factor</i>
Factors associated with less social integration	Pre-enlistment vulnerability
	Females (for number of social activities only)
	Longer service
	Being in a long-term relationship
	Time since leaving
No prediction possible; adjustment will be data-driven	Resettlement
	Rank
	Service arm
	Combat role
	Deployment
	Unplanned leaving
	Having children
	Education

11.6 Number of social activities

Respondents indicated which social activities they undertake outside of work; the number of categories endorsed was used as a count variable of social activities (shown in Figure 11-2). Associations with military and socio-demographic factors are shown in Table 11-9.

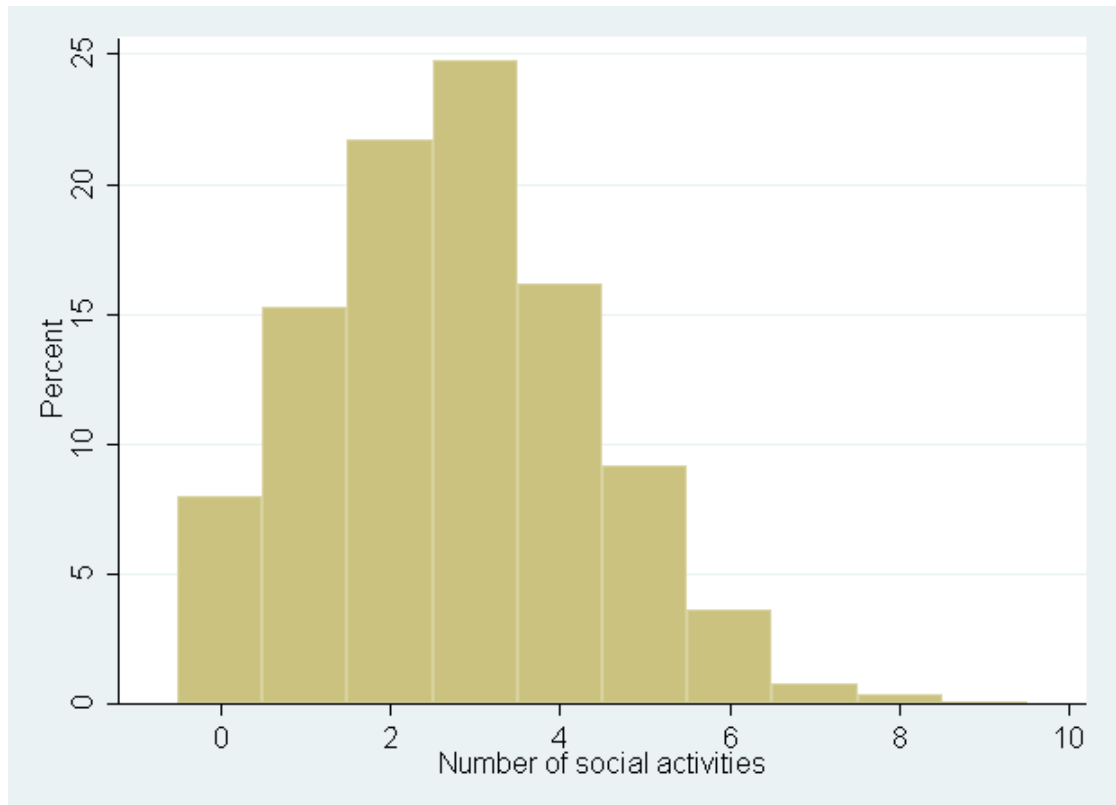


Figure 11-2 Number of social activities

Table 11-9 Associations between number of social activities and socio-demographic and military variables

<i>Category (n = 1,711)</i>	<i>Unadjusted coefficient (95% CI)</i>	<i>Adjusted coefficient⁸⁶ (95% CI)</i>	<i>Resettlement-adjusted coefficient⁸⁷ (95% CI)</i>
Pre-enlistment variables			
Sex			
Male	0	0	0
Female	-0.10 (-0.34 to 0.14)	-0.16 (-0.45 to 0.14)	-0.03 (-0.38 to 0.33)
Pre-enlistment vulnerability			
Per count	-0.08 (-0.11 to 0.05)***	-0.08 (-0.11 to 0.04)***	-0.07 (-0.11 to 0.03)***
Military variables			
Service			
Royal Navy	-0.13 (-0.35 to 0.08)	0.09 (-0.20 to 0.38)	-0.07 (-0.38 to 0.24)
Army/Royal Marines	0	0	0
RAF	-0.04 (-0.25 to 0.17)	0.09 (-0.15 to 0.32)	0.10 (-0.15 to 0.35)
Rank			
Officer	0.46 (0.25 to 0.67)***	0.26 (-0.01 to 0.53)	0.23 (-0.05 to 0.52)
NCO	0	0	0
Other rank	0.47 (0.27 to 0.67)***	0.09 (-0.21 to 0.39)	-0.11 (-0.46 to 0.23)
Length of service as a regular			
Per year	-0.08 (-0.11 to 0.05)***	-0.04 (-0.09 to 0.00)	-0.05 (-0.10 to 0.00)
Role in parent unit			
Combat	0.38 (0.15 to 0.60)**	0.27 (0.03 to 0.50)*	0.21 (-0.05 to 0.48)
Combat Support	0.45 (0.19 to 0.72)**	0.42 (0.15 to 0.69)**	0.33 (0.04 to 0.62)*
Combat Services Support	0	0	0
Deployment on HERRICK/TELIC			
Yes	0	0	0
No	-0.13 (-0.28 to 0.03)	-0.02 (-0.21 to 0.16)	-0.08 (-0.29 to 0.13)

⁸⁶ Adjusted for sex, PEV, length of service, relationship status, time since leaving, rank, role, and having children.

⁸⁷ Adjusted for same factors as above and taking resettlement (where entitled).

<i>Category (n = 1,711)</i>	<i>Unadjusted coefficient (95% CI)</i>	<i>Adjusted coefficient (95% CI)</i>	<i>Resettlement-adjusted coefficient (95% CI)</i>
Method of leaving			
Planned	0	0	0
Unplanned	-0.56 (-0.82 to 0.31)***	-0.60 (-0.90 to 0.30)***	-0.52 (-0.88 to 0.15)**
Post-service/current variables			
Relationship status			
Single	0.24 (0.03 to 0.44)*	0.10 (-0.14 to 0.34)	0.23 (-0.04 to 0.51)
Long-term relationship	0	0	0
Has children			
Yes	0	0	0
No	0.55 (0.39 to 0.72)***	0.45 (0.27 to 0.64)***	0.46 (0.25 to 0.67)***
Time after leaving			
Per year	-0.18 (-0.31 to 0.05)**	-0.05 (-0.20 to 0.10)	-0.06 (-0.22 to 0.10)
Education⁸⁸			
O-levels-	-0.24 (-0.42 to 0.06)**	-0.31 (-0.51 to 0.10)**	-0.30 (-0.54 to 0.08)**
A-levels+	0	0	0
Resettlement			
Entitlement to resettlement			
Yes	0	0	
No	0.50 (0.27 to 0.74)***	0.30 (-0.03 to 0.63)	
Taking resettlement (for those with entitlement)			
Yes	0	0	
No	-0.46 (-0.72 to 0.19)**	-0.49 (-0.80 to 0.17)**	

* p < 0.05 ** p < 0.01 *** p < 0.001

Increasing pre-enlistment vulnerability was associated with fewer social activities, as was unplanned leaving, and lower educational attainment. Sex had no effect. Length of service had no effect after adjustment (for rank and having children), nor did Service arm, deployment, rank (after adjustment for length of service, pre-enlistment

⁸⁸ Excludes officers due to co-linearity with higher educational attainment.

vulnerability, and role), or time since leaving (after adjustment for length of service, role, and having children). Those with a combat role did not engage in significantly more social activities than those with a combat services support role after adjustment for resettlement, but those in a combat support role did participate in more social activities. After adjustment (primarily for having children), being single did not affect number of social activities, but having children did reduce social activities. Taking resettlement is associated with participating in more social activities.

11.7 Social network size

Associations between having a small social network (i.e. 0-2 friends and relatives regularly contacted) and military and socio-demographic factors are shown in Table 11-10.

Table 11-10 Associations between number of close friends/family and socio-demographic and military variables

<i>Category (n = 1,703)</i>	<i>Small social network (%⁸⁹)</i>	<i>Unadjusted OR (95% CI)</i>	<i>Adjusted OR⁹⁰ (95% CI)</i>
Total	429 (24.7)		
<i>Pre-enlistment variables</i>			
Sex			
Male	388 (24.8)	1	1
Female	41 (24.0)	0.96 (0.66-1.39)	1.27 (0.83-1.94)
Pre-enlistment vulnerability (per score)		1.13 (1.08-1.18)***	1.13 (1.08-1.18)***
<i>Military variables</i>			
Service			
Royal Navy	55 (20.1)	0.71 (0.51-0.99)*	0.78 (0.53-1.13)
Army/Royal Marines	282 (26.1)	1	1
RAF	92 (24.1)	0.90 (0.68-1.19)	1.02 (0.74-1.41)
Rank			
Officer	55 (17.5)	0.55 (0.40-0.76)***	0.72 (0.50-1.04)
NCO	292 (28.0)	1	1
Other rank	82 (21.6)	0.71 (0.53-0.95)*	0.99 (0.67-1.47)
Length of service as a regular (per year)		1.09 (1.04-1.15)***	1.07 (1.00-1.14)*
Role in parent unit			
Combat	73 (21.4)	0.75 (0.56-1.02)	0.69 (0.48-0.97)*
Combat Support	44 (25.1)	0.93 (0.63-1.36)	0.95 (0.63-1.44)
Combat Services Support	247 (26.5)	1	1
Deployment on HERRICK/TELIC			
Yes	239 (24.9)	1	1
No	190 (24.6)	0.98 (0.79-1.23)	0.93 (0.72-1.20)
Method of leaving			
Planned	357 (24.1)	1	1
Unplanned	54 (31.1)	1.43 (1.00-2.04)	1.33 (0.88-1.99)

⁸⁹ Response weighted.

⁹⁰ Adjusted for PEV (as a continuous variable), rank, Service arm, role, deployment, length of service, relationship status, having children and time since leaving.

<i>Category (n = 1,703)</i>	<i>Small social network (%)</i>	<i>Unadjusted OR (95% CI)</i>	<i>Adjusted OR (95% CI)</i>
<i>Post-service/current variables</i>			
Relationship status			
Single	76 (22.3)	0.84 (0.63-1.13)	0.94 (0.67-1.31)
Long-term relationship	353 (25.4)	1	1
Has children			
Yes	256 (31.2)	1	1
No	149 (18.4)	0.50 (0.39-0.63)***	0.60 (0.46-0.79)***
Time after leaving (per year)		1.03 (0.97-1.10)	1.05 (0.98-1.13)
Education⁹¹			
O-levels-	184 (25.7)	1.13 (0.89-1.42)	1.10 (0.83-1.45)
A-levels+	219 (23.5)	1	1
<i>Resettlement</i>			
Entitlement to resettlement			
Yes	389 (26.4)	1	1
No	40 (16.7)	0.56 (0.39-0.81)**	0.62 (0.37-1.01)
Taking resettlement (for those with entitlement)			
Yes	297 (24.6)	1	1
No	55 (31.4)	1.41 (0.99-2.00)	1.46 (0.98-2.16)

* p < 0.05

** p < 0.01

*** p < 0.001

⁹¹ Excludes commissioned officers.

Higher PEV was associated with having a smaller social circle, but sex made no significant difference. There were no significant differences between Service arms (serving in the Navy was not significant after adjustment for PEV). Other ranks were not less likely than NCOs to have a small social network after adjustment for length of service, and officers were not less likely to have a small social network after adjustment for multiple factors (particularly PEV and having children). Those who served longer were more likely to have a smaller social network (though the effect reversed at higher lengths of service due to the quadratic term, not shown), while those who served in a combat role were less likely to have a smaller social network (after adjustment for PEV). Neither deployment nor method of leaving had any significant effect.

Those with children were more likely to have a small social network. No association was seen with relationship status, time after leaving, educational attainment or taking resettlement.

11.7.1 Comparison with hypotheses

Comparisons with hypotheses are shown in Table 11-11.

Table 11-11 Comparison with hypotheses with regard to social integration

<i>Factor</i>	<i>Observed association</i>
Factors expected to be associated with lower social integration	
Pre-enlistment vulnerability	Associated with lower social integration
Females (for number of social activities only)	No association
Longer service	Associated with smaller social network only
Being in a long-term relationship	No association
Time since leaving	No association
No prediction	
Resettlement	Did not affect social network size, but resettlement was associated with more social activities
Rank	No association
Service arm	No association
Role	No association (except that those with a combat role had larger social networks)
Deployment	No association
Unplanned leaving	Undertook fewer social activities but did not have smaller social networks
Having children	Associated with lower social integration
Education	Associated with engaging in fewer social activities but not having smaller social networks.

11.8 Summary

The relationships between the socio-demographic/military and social exclusion variables considered in this chapter are summarised in Table 11-12.

Table 11-12 Summary of associations between socio-demographic/military variables and social exclusion

<i>Variable</i>	<i>Relationships with outcomes</i>
Pre-enlistment vulnerability	Those with higher PEV scores showed lower levels of home ownership, moved more often, were more likely to get into legal trouble, engaged in fewer social activities, and contacted fewer friends and family.
Sex	No effect on any outcome.
Unplanned leaving	Associated with less home ownership, moving more often, encountering legal trouble, and fewer social activities
Service arm	Of marginal importance, except that those in the Army/Royal Marines were more likely to encounter legal difficulty than RN/RAF.
Rank	Little effect – apparent differences for other ranks were usually the consequence of other factors (notably length of service), though other ranks were more likely to rent rather than own their homes.
Length of service	Increasing length of service (and hence age) was associated with increased home ownership and reduced house moving, reduced legal difficulty but also reduced social network size.
Relationship status	Those who were single were less likely to own their home, moved more often, and encountered more legal difficulty, but were not different as regards social integration.
Having children	After adjustment, social integration was higher for those without children, who also moved more often.
Resettlement	Little effect on social exclusion, particularly after adjustment, except that those who took resettlement undertook more social activities

Chapter 12 Mental health, alcohol misuse and physical violence

This chapter discusses the effects of socio-demographic and military variables on mental health, alcohol usage, and physical violence. After analysis of associations between these variables and outcomes, this chapter also considers how the mental health of ex-Service personnel after service compares with their mental health as previously reported while still in service.

12.1.1 CMD among Service leavers

The main mental health problems faced by veterans are depression, anxiety disorders, and alcohol abuse (Murphy et al., 2008). Received wisdom for many in the civilian sector is that ex-Service personnel are mentally “battle-scarred”, and plagued by life-long mental health difficulties (BBC, 2008). Studies on modern cohorts indicate that, in fact, rates of common mental health disorders are similar between the military and civilian populations. The King’s Iraq cohort found that the rate of common mental disorder as measured by the General Health Questionnaire was 19.7% for regulars (Fear et al., 2010). By comparison, a 2007 survey of adults in England found that 15.1% of the general population fulfilled criteria for common mental disorder as assessed by the Clinical Interview Schedule – Revised (McManus et al., 2009). Apart from the fact that different diagnostic tools were utilised, it is difficult to draw a direct comparison between military and civilian rates: on one hand, the military cohort lacks the elderly who are prone to mental degeneration, but on the other, it has a disproportionate number of young males, who are also a high risk population. Furthermore, these studies focus on serving cohorts, rather than veterans. Consequently, while a direct comparison is problematic, it can be said that rates of mental health difficulties do not appear to be vastly different in the military and the civilian population.

12.1.2 Pre-enlistment factors

Pre-enlistment vulnerability

The King's Iraq cohort showed that higher pre-enlistment vulnerability was associated with CMD (Iversen et al., 2007a). In the US, a retrospective study of over 1000 US Service personnel found that childhood physical abuse was strongly associated with anxiety and depression (Fritch et al., 2010).

Hypothesis: Higher pre-enlistment vulnerability will be associated with higher rates of CMD.

Sex

As with pre-enlistment vulnerability, most literature on the differences between sexes as regards veteran mental health is focused on PTSD. However, some studies have considered other dimensions of mental wellbeing; a large-scale study of US veterans of recent engagements in Iraq and Afghanistan found females were more likely to report depressive symptoms while men were more likely to report PTSD and alcohol use (Maguen et al., 2010b). Examining the King's Iraq cohort shows that both sexes are not significantly different as regards neurotic disorders (which included any depressive syndrome, any anxiety syndrome or somatisation disorder) (Iversen et al., 2009).

Hypothesis: Males and females will report similar CMD rates.

12.1.3 Service-related factors

Rank

Higher rank was associated with lower reported levels of CMD in a study of over 3000 UK personnel who deployed to the 1991 Gulf War (Ismail et al., 2000). Higher rank was also associated with low rates in the King's Iraq/Afghanistan cohort (Fear et al., 2009).

Hypothesis: higher ranks will report lower rates of CMD.

Service arm

Service arm did not affect CMD rates in the aforementioned study of UK Gulf War personnel (Ismail et al., 2000). In contrasting, a clinical interview study of the King's Iraq/Afghanistan indicated that Naval personnel were less likely to suffer from neurotic disorders than other Services (Iversen et al., 2009); however, that study relied on the Patient Health Questionnaire (Spitzer et al., 1999) to identify those with mental health difficulties, and used a sample in which GHQ cases were overrepresented.

Hypothesis: CMD will not be associated with Service.

Length of service

The clinical interview study of the King's Iraq/Afghanistan cohort found no difference between age groups (Iversen et al., 2009). The King's Gulf War cohort also demonstrated no difference across age groups (Ismail et al., 2000). Since age and length of service are closely correlated in this thesis, these findings can be used to inform assumptions regarding the effect of length of service.

Hypothesis: Length of service will have no effect on CMD.

Deployment and role

US Gulf War veterans assessed by Toomey 10 years after the war found that mental disorders with onset at the time of the war were more prevalent in deployed veterans than non-deployed, and psychological difficulties remained higher in the deployed group (Toomey et al., 2007). Larger-scale studies of Gulf War veterans, including comparisons with both non-deployed troops and a group deployed on peace-keeping duties to Bosnia, found an association between deployment to the Gulf and CMD (Ismail et al., 2000; Unwin et al., 1999). However, in the King's Iraq cohort (upon which this thesis is built), deployment to Iraq/Afghanistan did not affect CMD rates

(Fear et al., 2010). Furthermore, among UK military deployed to Iraq, the effects of combat exposure were marginal (Rona et al., 2009).

Hypothesis: Neither deployment nor combat role will be significantly associated with CMD.

Method of leaving

As with other outcomes, there is little literature on the effect of discharge methods. However, there is evidence that UK Early Service leavers suffer worse CMD – since early leavers are more likely to have been discharged involuntarily (Buckman et al., 2013), it would be expected that unplanned leavers suffer higher CMD rates. There is also evidence that involuntary unemployment can give rise to poor mental health in the civilian population (Kessler et al., 1987).

Hypothesis: Unplanned leavers will report higher levels of CMD.

12.1.4 Post-service/current factors

Time after leaving

A follow-up study of 1991 Gulf War veterans found that CMD rates did not vary significantly by time since leaving (Hotopf et al., 2003b).

Hypothesis: CMD will not be affected by time since leaving.

Relationship status/having children

In the civilian population, long-term partnership has a protective effect on mental health (Willitts et al., 2004; Osler et al., 2008). However, The King's clinical interview study of Iraq-era veterans did not find long-term relationships to have had a significant effect on neurotic disorders, though it there was an effect on alcohol abuse (Iversen et al.,

2009). Given the lack of any literature specific to the effect of children, it must be predicted that children will not affect CMD either.

Hypothesis: Relationship status and having children will not affect CMD.

Education

A study by King's College, London using their Gulf War-era cohort showed that, when considering the group who deployed on peacekeeping duties to Bosnia, educational attainment was not associated with CMD (Hotopf et al., 2003a). The King's Iraq/Afghanistan cohort showed an association between lower education and neurotic disorders in the aforementioned clinical study (Iversen et al., 2009) - however, as mentioned before, the group in that study were oversampled for CMD according to the GHQ-12 questionnaire. The earlier King's Gulf War studies showed education had no effect on GHQ outcomes (Ismail et al., 2000).

Hypothesis: Education will not be associated with CMD.

Resettlement

Resettlement is not intended or designed to protect mental health, and there is no evidence to indicate that it has any such effect.

Hypothesis: Resettlement will not be associated with CMD.

12.1.5 Summary of expected effects: CMD

The hypotheses above are summarised in Table 12-1.

Table 12-1 Factors expected to be associated with CMD

<i>Effect</i>	<i>Factor</i>
Factors associated with higher rates of CMD	Pre-enlistment vulnerability
	Lower rank
	Unplanned leaving
No association	Resettlement
	Sex
	Service
	Length of service
	Deployment
	Role
	Time since leaving
	Relationship status
	Having children
	Education

Factors associated with CMD (defined as being a GHQ case) are shown in Table 12-2.

Table 12-2 Socio-demographic and military factors associated with CMD

<i>Category (n = 1,698)</i>	<i>GHQ case (%⁹²)</i>	<i>Unadjusted OR</i>	<i>Adjusted OR⁹³</i>	<i>Adjusted for resettlement⁹⁴</i>
Total	372 (21.9)			
<i>Pre-enlistment variables</i>				
Sex				
Male	335 (22.6)	1	1	1
Female	37 (22.1)	0.97 (0.66-1.44)	0.97 (0.63-1.48)	0.93 (0.57-1.53)
Pre-enlistment vulnerability (per score)		1.17 (1.13-1.22)***	1.16 (1.11-1.21)***	1.14 (1.08-1.19)***
<i>Military variables</i>				
Service				
Royal Navy	54 (21.6)	0.90 (0.64-1.27)	0.97 (0.67-1.40)	1.00 (0.67-1.50)
Army/Royal Marines	244 (23.4)	1	1	1
RAF	74 (20.7)	0.85 (0.63-1.15)	0.98 (0.72-1.35)	0.88 (0.61-1.26)
Rank				
Officer	55 (17.6)	0.82 (0.59-1.14)	0.99 (0.70-1.40)	1.06 (0.74-1.52)
NCO	210 (20.6)	1	1	1
Other rank	107 (29.4)	1.60 (1.21-2.11)**	1.44 (1.07-1.93)*	1.24 (0.82-1.86)
Length of service (years)		0.98 (0.97-0.99)***	0.99 (0.98-1.01)	0.99 (0.98-1.01)
Role in parent unit				
Combat	90 (27.7)	1.39 (1.03-1.88)*	1.12 (0.81-1.56)	1.06 (0.72-1.58)
Combat Support	33 (19.6)	0.89 (0.58-1.35)	0.89 (0.56-1.42)	0.95 (0.59-1.54)
Combat Services Support	189 (21.5)	1	1	1
Deployment on HERRICK/TELIC				
Yes	216 (23.7)	1	1	1
No	156 (21.0)	0.86 (0.68-1.09)	0.84 (0.65-1.08)	0.90 (0.67-1.19)
Method of leaving				
Planned	282 (19.8)	1	1	1
Unplanned	77 (46.7)	3.54 (2.51-4.98)***	3.05 (2.15-4.32)***	2.81 (1.82-4.32)***

⁹² Response weighted.⁹³ Adjusted for PEV (as a continuous variable), rank, and method of leaving.⁹⁴ Adjusted for the same factors and taking resettlement (for those with entitlement).

<i>Category (n = 1,698)</i>	<i>GHQ case (%)</i>	<i>Unadjusted OR</i>	<i>Adjusted OR</i>	<i>Adjusted for resettlement</i>
<i>Post-service/current variables</i>				
Relationship status				
Single	109 (34.2)	2.13 (1.62-2.81)***	1.99 (1.48-2.67)***	1.79 (1.26-2.53)**
Long-term relationship	263 (19.6)	1	1	1
Has children				
Yes	189 (23.7)	1	1	1
No	164 (21.8)	0.90 (0.71-1.14)	0.88 (0.67-1.16)	0.84 (0.62-1.14)
Time after leaving (per year)		0.76 (0.64-0.91)**	0.75 (0.62-0.91)**	0.71 (0.58-0.89)**
<i>Resettlement</i>				
Entitlement to resettlement				
Yes	306 (21.1)	1	1	-
No	66 (29.9)	1.60 (1.16-2.20)**	1.17 (0.78-1.75)	-
Taking resettlement (for those with entitlement)				
Yes	215 (18.0)	1	1	-
No	59 (34.9)	2.45 (1.72-3.49)***	1.95 (1.33-2.86)**	-

* p < 0.05

** p < 0.01

*** p < 0.001

Higher pre-enlistment vulnerability, unplanned leaving, and not being in a long-term relationship were associated with CMD. CMD rates lowered in the short term after leaving service. Factors related to in-service experiences (rank, Service, deployment, and role) did not have any significant effect.

12.1.6 Comparison with hypotheses: CMD

Comparisons of findings with initial hypotheses with regard to CMD are shown in Table 12-3.

Table 12-3 Summary of observed associations with CMD

<i>Factor</i>	<i>Observed association</i>
Factors expected to be associated with higher rates of CMD	
Pre-enlistment vulnerability	Associated with CMD
Lower rank	No association after adjustment (primarily for resettlement)
Unplanned leaving	Associated with CMD
No association	
Resettlement	Not taking resettlement was associated with CMD
Sex	No association
Service arm	No association
Length of service	No association
Deployment	No association
Role	No association
Time since leaving	Associated with lower CMD in the short term, but CMD increases in the long term
Relationship status	Being single associated with CMD
Having children	No association
Education	No association

12.2 Post-Traumatic Stress Disorder

12.2.1 Expected level of PTSD symptoms

The King's Gulf War cohort study found that veterans of that conflict report higher rates of probable PTSD, compared with both non-deployed controls and those on peacekeeping duties in Bosnia (Unwin et al., 1999). However, the King's Iraq/Afghanistan study compared probable PTSD rates between regular troops who deployed and those who did not, finding no significant difference in rates of probable PTSD (adjusted odds ratio for deployed vs non-deployed personnel was 1.13, $p=0.46$) (Fear et al., 2010).

By comparison, UK civilian rates are around 3% (McManus et al., 2009); this study utilised a different diagnostic tool, the Trauma Screening Questionnaire (Brewin et al., 2002), so the results are not directly comparable. Nonetheless, it would appear that service in the Armed Forces does not give rise to greatly different PTSD rates than in the civilian population, nor does exposure to the deployed environment significantly increase the risk of PTSD for regulars.

12.2.2 Pre-enlistment variables

Pre-enlistment vulnerability

An early US study into the effects of childhood experiences on service-related PTSD considered 107 Second World War veterans and was longitudinal over 50 years (Lee et al., 1995). Participants were recruited in 1938 as college students, studied before and after serving overseas in the war, and followed up until 1988. This group reported low PTSD rates; only one subject fulfilled the criteria for PTSD, with a further four nearly reaching the criteria. While PTSD rates for this study as a whole were low, the outcomes for affected individuals were poor; one was still symptomatic in 1995 (the time of the 50 year report), two had committed suicide, one was murdered, and the last

refused to be involved with the study. This study found that combat exposure was the determining factor in predicting PTSD symptoms, not poor childhood. Interestingly, although men with high combat exposure continued to report more PTSD symptoms and poor physical health 40 years later, they were also more likely to enjoy positive socio-economic and psychosocial outcomes, and low neuroticism. It should be borne in mind, however, that this was a group of high achievers, mostly from higher socio-economic backgrounds, and those in this group who saw combat were particularly likely to come from higher echelons.

Hence these early US studies had difficulty separating the effects of deployment and background. A 1962 US study involved a 15-year follow-up of troops who had suffered acute “combat syndrome” following the Second World War; combat veterans reported more problems than their non-combat controls, but also suffered a lower level of education than their controls. Furthermore, they were more likely to have lost a parent by age 14, a sign of deprivation and another potential link with pre-enlistment vulnerability (Archibald et al., 1962). In another longitudinal study of World War 2 and Korean veterans, those with heavy combat exposure reported greater emotional and behavioural problems, though again their pre-war histories indicated PTSD vulnerabilities (Elder and Clipp, 1989). A 1996 US national survey, with most of its veteran subjects having served in World War 2 (O'Donnell, 2000), found an association between service and improved mental health; when adjustment is made for the more advantageous backgrounds, no such effect is seen. The study concluded that military service is not protective, as previous studies had found, but that mental health in later life is primarily governed by health and socio-economic status.

On the other hand, another (relatively small-scale; $n = 144$) study considered the effect of adolescent legal problems, drinking, employment and church attendance on PTSD among patients at a Veterans Administration Medical Center, and found no significant

effects arising from any of these factors, concluding that pre-enlistment antisocial behaviour was not a causative agent in PTSD. They argued that this contradicted the idea that PTSD was an outgrowth of pre-traumatic maladjustment (Watson et al., 1988). This study focused on the pre-enlistment behaviours of members, rather than wider circumstances of upbringing (e.g. passive factors such as poverty and receiving abuse).

A number of other studies have focused on specific elements of pre-combat adversity: physical and sexual abuse. Smith's investigation of the US Millennium Cohort found new-onset PTSD symptoms more prevalent in those who reported assault (sexual or physical) prior to deployment (Smith et al., 2008b). In both genders, both PTSD and prior assault were more likely to be reported by those less educated, possibly suggesting that the effect of assault on PTSD was moderated by other pre-enlistment factors; however, when correcting for education, abuse was still associated with PTSD. Another, smaller study of Gulf War veterans showed that females reporting pre-combat abuse score significantly higher for PTSD, but there was no such effect in males (Engel et al., 1993). These studies took a general approach, asking about abuse that occurred at any time before deployment, rather than specifically childhood trauma.

One study considered pre-, during, and post-service trauma in a PTSD-affected male veteran population, and found that physical abuse at any time period (childhood, during service, or (most strongly) after service) was associated with more severe PTSD symptoms, though sexual trauma only had an effect when it occurred as an adult (Clancy et al., 2006). Other studies of the effect of physical abuse have supported the view that it increases risk of PTSD separately to the effects of combat exposure (Donovan et al., 1996). Against this, a study in the general population found childhood sexual abuse did predict lifetime PTSD, with a closer association than physical abuse (Widom, 1999). Overall, it is clear that abuse in childhood is a factor influencing adult PTSD.

Other studies have focused on the interaction between childhood adversity and combat exposure as regards PTSD. A retrospective study of over 1000 US Service personnel found that childhood physical abuse was strongly associated with PTSD, as was combat-related trauma, but there were no interactions between these two factors (Fritch et al., 2010). By contrast, when studying childhood traumatic experiences and combat-related PTSD, Stein found no effects of childhood trauma (including abuse and other exposures in childhood) as a whole on PTSD rates. In this case, there did appear to be an interaction between combat exposure and childhood trauma indicating possible protective effects from combat exposure by childhood negative experiences; for those with low levels of combat exposure, childhood trauma seemed to increase PTSD rates, while those with higher exposure to combat were protected by childhood trauma (Stein et al., 2005).

A larger, more recent, study of 1991 Gulf War veterans correlated number of childhood trauma exposures with PTSD risk. Again, there was an interaction with combat exposure, with a larger effect of combat exposure in those with a less adverse childhood than the high-trauma group (i.e. childhood trauma had a protective effect in the high-combat-exposure group) (Cabrera et al., 2007). However, in the UK, the King's Iraq/Afghanistan cohort found those with highest childhood adversity suffered higher levels of PTSD symptomatology (Iversen et al., 2007a).

Together, these findings would support the suggestion that, in general, pre-enlistment vulnerability is a factor increasing the likelihood of poor mental health later in life. There remains the possibility that PEV may interact with combat exposure so as to alter the likelihood of probable PTSD for those exposed to higher levels of combat trauma.

Hypothesis: Pre-enlistment vulnerability will be associated with increased rates of probable PTSD.

Effect of sex

One study investigating PTSD rates among US Gulf War veterans found that rates were 4% for males and 9% for females. There appears to be a differentiation in the nature of male and female responses; female veterans are more likely to report combat as the most distressing experience, while men are equally likely to identify domestic conflict as the most distressing (Wolfe and Keane, 1993). These conclusions only refer to deployed personnel. Greater reporting of stress and symptoms by women following combat has been identified by other studies (Sohler et al., 1992), and female victims of traumatic events are at higher PTSD risk than male victims (Breslau, 2009). Pregnancy has been linked to increased incidence of mental health problems including PTSD in women who deployed to recent conflicts, possibly explaining some of the differences between genders (Mattocks et al., 2010). However, as previously mentioned, a large-scale study of US Iraq/Afghanistan veterans found men were more likely to suffer from PTSD and alcohol use (Maguen et al., 2010b). A modern UK cohort also shows that males are more prone to PTSD (Iversen et al., 2009).

Hypothesis: Males will show higher rates of probable PTSD.

12.2.3 Military variables

Rank

One of the earliest studies including rank as a factor in PTSD symptomatology was of 64 UK Falklands veterans, studied five years after the conflict (O'Brien and Hughes, 1991). In this case the presence of PTSD symptoms was not associated with rank.

In more modern samples, the King's Gulf War cohort showed an inverse relationship between higher rank and PTSD symptomatology (Ismail et al., 2000). The King's study of UK service personnel deployed on peace-keeping duties to Bosnia also found rank to have a protective effect (Hotopf et al., 2003a). Similarly, higher rank had a protective

effect against PTSD symptoms in a study of 4199 US Gulf War veterans questioned 10 months after the war (Adler et al., 1996). The King's clinical interview study of Iraq-era personnel included PTSD symptoms; here, officers showed no difference with respect to PTSD symptoms. These findings were not adjusted for other factors, and so are not as persuasive as the previous study (Iversen et al., 2009).

Hypothesis: Higher rank will be associated with lower rates of probable PTSD.

Service arm

The UK Gulf War cohort found no significant difference in having a psychiatric diagnosis (including, but not limited to, PTSD) between Service arms (Iversen et al., 2005a). The King's Iraq cohort clinical interview study found that Army personnel were more likely than RAF to suffer PTSD symptoms (Iversen et al., 2009). However, as previously mentioned, this was not adjusted for other factors, and demographic differences between Services could explain those observations (in particular, differences in age and rank) as well as role (see below) as Army personnel are more likely to have combat roles.

Hypothesis: No association will be observable with Service (after adjustment).

12.2.3.1 Length of service

The previously-mentioned study of 64 Falklands veterans found that the presence of symptoms of poor mental health was not associated with age or length of service (O'Brien and Hughes, 1991). The King's Gulf War study sample also showed no difference in post-traumatic stress reaction between age groups (Ismail et al., 2000). Similarly the King's Iraq-era clinical interview study found no significant difference between age groups (Iversen et al., 2009). The King's study of Bosnian peacekeepers also showed no association between "stress symptoms akin to a post-traumatic stress reaction" and age (Hotopf et al., 2003a).

Hypothesis: Probable PTSD rates will not vary with length of service.

12.2.3.2 Deployment and role

Deployment (and combat exposure in particular) is frequently examined for its potential effect on mental health, particularly in the US, and particularly for the Vietnam era. The National Vietnam Veterans Readjustment Study (a very broad study mandated by the US Congress in 1983) found higher levels of PTSD among Vietnam veterans than their non-deployed counterparts. Overall, the sample showed that 15.2% of male veterans and 8.5% of females had the symptoms of PTSD, compared with 0.3-2.5% in comparable peers (Schlenger et al., 1992). However, this study was perhaps a victim of its own success, later becoming much-criticised, in particular for its reliance on retrospective reporting. Information allowing some degree of verification became available later. Dohrenwend used archival data to create an objective measure of military factors, finding that, for example, 28% under-reported combat exposure. “Adjusted” measures were produced, taking into account prior onset PTSD, verifiability of exposure, and impairment of functioning; this produced lower PTSD estimates (9.1% for the male population studied, rather than the earlier estimate of 15.2%) (Dohrenwend et al., 2006). The findings have continued to be much-discussed, with opinions differing on, *inter alia*, the qualification of a PTSD-afflicted veteran (Schlenger et al., 2007).

A prospective longitudinal study of a US high school cohort showed that those with Vietnam service had significantly higher rates of questionnaire-indicated PTSD (19%, compared with 12% in those who did not serve). The study also found combat in general and specific aspects of combat significantly associated with PTSD, including both passive (e.g. coming under fire, seeing people being wounded in combat) and active (e.g. killing an enemy) factors (Card, 1987).

Another US study of Vietnam veterans found that PTSD symptoms were associated with combat exposure, particularly the witnessing of violence (and not associated with participation in violence) (Laufer et al., 1985). A further prospective study of US Vietnam veterans found an association between PTSD and deployment where military experience in general was not a risk factor, but deployment was a factor. Again, combat experience was a strong contributory factor (Card, 1987). Adler's study of 4199 US Gulf War veterans 10 months after the war correlated PTSD symptoms with exposure, and those who were exposed to US casualties recorded the highest PTSD scores (Adler et al., 1996). Increased PTSD rates were also associated with both length of deployment to Vietnam and combat duties among New Zealand veterans (Vincent et al., 1994).

A particularly compelling study of US troops on this topic is Goldberg's Vietnam Twin study – as a twin study, it avoided much of the influence of underlying socio-economic factors. Those who had deployed to South East Asia had higher rates of both individual symptoms and PTSD overall, measured 15 years after the event. Further, in deployment-discordant pairs, the deployed twin had similar rates to concordant deployed pairs, while the non-deployed twin closely resembled non-deployed concordant pairs. Reporting of PTSD symptoms was also associated with degree of combat exposure. This lends strong evidence to the suggestion that PTSD rates are linked to environment factors, specifically deployment, and not genetic factors (Goldberg et al., 1990).

A very large-scale study was conducted on the medical records of nearly 2 million US men and women on active duty from the end of the 1991 Gulf War. The outcome measured was hospitalisation for mental health problems, for the period up to 5 years after the war. They found that Gulf War service was associated with a significantly increased risk of hospitalisation due to acute stress reactions; however, no consistent

association between combat exposure and mental disorders was found (Dlugosz et al., 1999).

In the UK, the previously-mentioned study of 64 Falklands veterans, studied five years after the conflict, found that PTSD symptomatology was correlated with the intensity of combat experience (O'Brien and Hughes, 1991). Similarly, The King's study comparing Gulf War veterans with both non-deployed troops and a group deployed on peace-keeping duties to Bosnia found an association between deployment to the Gulf and difficulties including symptoms of post-traumatic and psychological stress (Ismail et al., 2000; Unwin et al., 1999). The latter paper also noted that these subjects had experienced more potentially harmful exposures, with such exposures also being associated with these outcomes.

The King's Iraq/Afghanistan study found that deployment does not affect probable PTSD rates in regulars, as described earlier in this chapter (Fear et al., 2010). However, the nature of duties when on deployment does have an effect; that study showed that, for regulars who had deployment experience to Iraq and/or Afghanistan, those in combat roles had a higher prevalence of PTSD symptoms than those in non-combat roles.

Hypotheses: (1) given the lack of effect on regulars of the Iraq/Afghanistan cohort, deployment would not be expected to have any effect on probable PTSD in this thesis (as it only considers regulars). (2) However, having a combat role will be associated with increased rates of probable PTSD.

12.2.3.3 Method of leaving

As previously stated, there is little literature regarding the effect of unplanned leaving on Service leavers' mental health. Given the negative effect of involuntary job exit on

civilian mental health (Kessler et al., 1987), it is expected that the same association would be seen in military personnel.

Hypothesis: Unplanned leaving will be associated with increased rates of probable PTSD.

12.2.4 Current/ex-service variables

Time since leaving

There are reasons to believe that mental health might either improve or worsen over time (and hence increase the longer a person is out of service). For one, there may be a selection pressure at work, as symptoms of poor mental may make the individual more likely to leave (i.e. another manifestation of the “Healthy Warrior” effect (Wilson et al., 2009)). There are also indications that perceptions of stress increase over time; Southwick demonstrated that people’s recollection of actual exposure to objective events (e.g. being in a firefight, rather than subjective, e.g. feeling threatened) increases over time (Southwick et al., 1997). On the other hand, it could be that mental health would improve after leaving, partly as a result of aging (and no longer being within the at-risk young and male group) and partly due to separation from a demanding and dangerous occupation.

Some sources have suggested that mental health problems with service-specific causes arise only at a later date, i.e. that PTSD frequently has a delayed onset, and hence data based on a serving or recently discharged population will not detect these cases – and that current conflicts will cause a “tidal wave” of future cases (Hickley, 2008; Urry, 2008; BBC, 2009). There is, in fact, little or no evidence to support this hypothesis. Most data on the matter are anecdotal or based on small-scale case studies (Richmond and J. Beck, 1986; Hamilton, 1982; Ramchandani, 1990; Van Dyke et al., 1985). Delayed-onset PTSD is defined in the Diagnostic and Statistical Manual of Mental

Disorders (4th edition) as occurring 6 months after the traumatic event (American Psychiatric Association, 2000). A systematic review of case and group studies indicated that delayed-onset PTSD without any prior symptoms is rare, while it occurred as a result of exacerbated or reactivated symptoms in 38.2% of military PTSD cases (and 15.3% of civilian cases), though the studies surveyed varied in their definitions of delayed-onset PTSD (Andrews et al., 2007).

This team later made a retrospective study of the aetiology and symptomatology of “immediate” and delayed-onset PTSD: of the delayed-onset group, 90% reported at least some symptomatology at the 6 months mark, even if they did not fulfil criteria for PTSD until later. Overall, the authors speculated that delayed onset arises due to cumulative stress response, rather than a single traumatic experience (Andrews et al., 2009). Another US study asked veterans from World War 2, Korea and Vietnam the year of onset of PTSD symptoms and the year they first became aware these symptoms were related to their combat experiences; over 85% of all veterans reported onset during wartime, and there were no significant differences between wars in the proportions of those reporting delayed onset (Rosenheck and Fontana, 1994a).

One popularly-quoted statistic is that the average time for PTSD to present is 14 years; this highly publicised figure arises from the UK Service-related charity Combat Stress, which found that 14 years is the average time since discharge for ex-Service personnel to come forward to that charity with mental health problems (Fletcher, 2007). These data are of limited value, as they apply only to that self-selecting sample approaching the charity, of whom 35% are self-referred, and most of the remainder are referred by the Veterans’ Welfare Service or other Service charities. Self-referral may cause bias: those accessing the Medical Assessment Programme (MAP, which offers clinical assessment to any Gulf War veteran requesting it) were found to be distinct from a random sample of the King’s Gulf War cohort. There were differences in demographics,

illness beliefs, and symptoms (Hull et al., 2002). The fact that the population accessing the MAP were unrepresentative of the veteran population brings into question whether the Combat Stress sample was representative.

A retrospective study of US World War 2 prisoners of war failed to find any evidence of delayed-onset PTSD (Kluznik et al., 1986). Another of Canadian veterans of World War 2 (specifically the 1942 Dieppe raid) showed questionnaire diagnosed PTSD rates high 50 years after the fact – but that rate was similar to retrospectively labelled PTSD rates in 1946, leading the author to conclude that symptoms of distress had been life-long (Beal, 1995).

One much larger scale analysis of US Vietnam veterans was the Centre for Disease Control's Vietnam Experience Study (Barrett et al., 1988). This study found that psychological harm reduced over time – for example, while 15% had exhibited symptoms of PTSD at some point during or after military service, only 2% did in the month before sampling.

Looking to more recent conflicts, US Gulf War veterans demonstrated levels of PTSD lower 10 years after the war (irrespective of deployment), again refuting the “time bomb” concept of deployment related mental health (Toomey et al., 2007). The Fort Devens Reunion found that veterans returning from the Gulf War had higher levels of PTSD symptoms at follow-up, but the time span was short for this study (18-24 months) (Erickson et al., 2001).

The King's Gulf War cohort study found that those who took part in the Gulf war continued to experience worse symptoms than controls, but were not deteriorating and did not have higher rates of new illness (Hotopf et al., 2003b). Investigating those who had left service found no worsening of post-traumatic stress or symptom scores; those unwell at the beginning of the longitudinal study showed a similar level of difficulty

rather than any worsening. This suggested that UK long servers from the Gulf War did not suffer worse mental health on leaving (Iversen et al., 2005b). The King's Iraq cohort study indicated that the odds ratio for development of PTSD symptoms from deployment peaks at around 4 years since return (Fear et al., 2010). Thus overall it appears that veterans' mental health does not worsen overall in the years following deployment (at least after a refractory period), and may in fact improve. However, in this thesis, many participants left service fairly recently – thus some may be close to the four-year peak at the time of response.

Hypothesis: Probable PTSD rates may increase in the short term, but overall will not be higher the longer personnel are out of service.

Relationship status/having children

The King's Gulf War cohort demonstrated that single personnel showed higher rates of probable PTSD (Ismail et al., 2000). King's study of "vulnerable ex-service personnel" from the Gulf War cohort also found lower levels of PTSD among married veterans (Iversen et al., 2005a). On the other hand, the King's clinical interview study of Iraq-era veterans did not find long-term relationships to have a significant effect on PTSD (Iversen et al., 2009). There is little literature on the effects of having children on PTSD, though there is no reason to predict children will have any effect (after adjustment for long-term relationships).

Hypothesis: Having children will not affect probable PTSD, but being in a long-term relationship will be associated with lower rates of probable PTSD.

Education

As stated above, Smith's investigation of the Millennium Cohort found PTSD was more likely to be reported by those with less education (Smith et al., 2008b). King's

telephone survey of “vulnerable” ex-Service personnel from the Gulf War-era cohort found no difference between education groups (Iversen et al., 2005a). The King’s clinical interview study of Iraq War-era personnel showed those with no qualifications had higher PTSD levels than those with A-levels, but other education groups were not significantly different (Iversen et al., 2009).

Hypothesis: Education will have no association with probable PTSD.

Resettlement

As previously discussed, resettlement is not intended as a psychosocial intervention, and there is no reason to expect it to have any effect on PTSD.

Hypothesis: Resettlement will have no association with probable PTSD.

12.2.5 Summary of expected effects: PTSD

Table 12-4 summarises the hypothesised associations between independent factors and probable PTSD.

Table 12-4 Expected associations with probable PTSD

<i>Effect</i>	<i>Factor</i>
Factors associated with higher rates of probable PTSD	Pre-enlistment vulnerability
	Being male
	Lower rank
	Unplanned leaving
	Combat role
	Time after leaving (at least for the first few years)
	Being single
No association	Resettlement
	Service arm
	Length of service
	Deployment
	Having children
	Education

Observed associations between PTSD and military and socio-demographic factors are shown in Table 12-5.

Table 12-5 Factors associated with probable PTSD

<i>Category (n = 1,696)</i>	<i>PCL cases (%⁹⁵)</i>	<i>Unadjusted OR</i>	<i>Adjusted OR⁹⁶</i>
Total	121 (7.7)		
<i>Pre-enlistment variables</i>			
Sex			
Male	111 (7.9)	1	1
Female	10 (6.0)	0.75 (0.38-1.46)	0.58 (0.24-1.45)
Pre-enlistment vulnerability (per score)		1.28 (1.20-1.36)***	1.24 (1.15-1.33)***
<i>Military variables</i>			
Service			
Royal Navy	13 (5.5)	0.59 (0.32-1.09)	0.77 (0.33-1.81)
Army/Royal Marines	90 (9.0)	1	1
RAF	18 (5.3)	0.57 (0.33-0.98)*	0.82 (0.39-1.70)
Rank			
Officer	8 (2.6)	0.36 (0.17-0.75)**	0.54 (0.23-1.24)
NCO	69 (6.9)	1	1
Other rank	44 (12.2)	1.88 (1.25-2.83)**	1.24 (0.77-2.01)
Length of service as a regular (per year)		0.96 (0.94-0.97)***	1.01 (0.98-1.04)
Role in parent unit			
Combat	42 (13.6)	2.31 (1.49-3.56)***	1.72 (1.05-2.81)*
Combat Support	8 (4.8)	0.74 (0.34-1.61)	0.75 (0.32-1.75)
Combat Support Services	55 (6.4)	1	1
Deployment on HERRICK/TELIC			
Yes	78 (8.9)	1	1
No	43 (6.1)	0.67 (0.45-1.00)*	0.76 (0.47-1.23)
Method of leaving			
Planned	77 (5.6)	1	1
Unplanned	42 (27.1)	6.33 (4.11-9.74)***	6.40 (3.88-10.57)***

⁹⁵ Response weighted.

⁹⁶ Adjusted for PEV (as a continuous variable), sex, rank, role, method of leaving, relationship status, and time after leaving (quadratic model).

<i>Category (n = 1,696)</i>	<i>PCL cases (%)</i>	<i>Unadjusted OR</i>	<i>Adjusted OR</i>
<i>Post-service/current variables</i>			
Relationship status			
Single	39 (13.3)	2.28 (1.51-3.44)***	2.09 (1.29-3.40)**
Long-term relationship	82 (6.3)	1	1
Has children			
Yes	63 (8.1)	1	1
No	54 (7.6)	0.89 (0.61-1.30)	0.89 (0.55-1.44)
Time after leaving (per year)		0.77 (0.59-1.01)	0.69 (0.51-0.95)*
<i>Resettlement</i>			
Entitlement to resettlement			
Yes	99 (7.2)	1	1
No	22 (10.3)	1.50 (0.91-2.46)	0.48 (0.24-0.94)*
Taking resettlement (for those with entitlement)			
Yes	60 (5.3)	1	1
No	21 (13.0)	2.69 (1.57-4.59)***	1.53 (0.80-2.91)

* $p < 0.05$

** $p < 0.01$

*** $p < 0.001$

PTSD symptomatology was associated with higher PEV, unplanned leaving, and having a combat role. Deployment was not significant after adjustment (primarily for role). Being single is associated with PTSD symptoms, but having children had no effect. Probable PTSD rates drop in the early years after leaving. It is also worth noting that this sample showed higher PTSD rates in general than the cohort from which it was drawn (i.e. mostly those serving during the Iraq/Afghanistan era).

12.2.6 Summary of associations: Probable PTSD

Findings from Table 12-5 are summarised in Table 12-6, with a comparison between these findings and the hypotheses in Table 12-4.

Table 12-6 Summary of associations with probable PTSD

<i>Factor</i>	<i>Observed association</i>
Factors expected to be associated with probable PTSD	
Pre-enlistment vulnerability	Higher PEV associated with probable PTSD
Being male	No association
Lower rank	No association
Unplanned leavers	Associated with probable PTSD
Combat role	Associated with probable PTSD
Time after leaving (at least for the first few years)	Associated with lower probable PTSD (though effect may reverse at over time)
Being single	Associated with probable PTSD
No association	
Resettlement	No association
Service arm	No association
Length of service	No association
Deployment	No association
Having children	No association
Education	No association

12.3 Alcohol misuse

As described in Chapter 4.8.3, the Service population are generally heavier drinkers than the civilian population. However, ex-Service personnel are not significantly more likely to be heavy drinkers than their still-serving counterparts within the King's Iraq cohort (Fear et al., 2007). Furthermore, analysis of the King's Gulf War cohort showed that veterans were, in fact, less likely to be heavy drinkers than their in-service colleagues (Iversen et al., 2007b). Thus overall there is no evidence that UK Service personnel misuse alcohol more post-Service, though they have higher levels of misuse than the general population.

12.3.1 Pre-enlistment factors

Pre-enlistment vulnerability

The King's Iraq/Afghanistan cohort showed increasing levels of alcohol misuse with increasing childhood adversity (Iversen et al., 2007a). Alcohol abuse is also associated with childhood abuse in the general population (MacMillan et al., 2001; Afifi et al., 2006).

Hypothesis: PEV will be associated with alcohol misuse.

Sex

In the King's UK Iraq/Afghanistan cohort, males are more prone to alcohol abuse than females (Iversen et al., 2009). This reflects trends in the civilian population (McManus et al., 2009; Grant et al., 2004; Prescott et al., 1999).

Hypothesis: Males will have higher rates of alcohol misuse than females.

12.3.2 Military variables

Rank

The King's Gulf War cohort showed no significant difference in levels of alcohol misuse between ranks after adjustment for other factors⁹⁷ (Iversen et al., 2007b). The King's clinical interview study of Iraq-era personnel included alcohol misuse; here, officers showed lower levels of alcohol misuse. These findings were not adjusted for other factors, and so are not as persuasive as the previous study (Iversen et al., 2009). However, studies of the King's Iraq cohort indicated that officers were less likely to suffer alcohol misuse than NCOs and other ranks, even after adjustment for possible explanatory factors (Fear et al., 2009; Fear et al., 2007).

Hypothesis: Higher ranks are less likely to report alcohol misuse.

Service arm

Analysis of the King's Gulf War-era cohort found no difference between Service arms when comparing frequency of heavy and light drinkers (Iversen et al., 2007b). The King's Iraq cohort clinical interview study did find that the Army had higher levels of alcohol abuse (Iversen et al., 2009). Studies of the postal questionnaire data of the King's Iraq cohort do show a difference between Service arms, however, with higher alcohol misuse in the Navy than the Army, and lower misuse in the RAF (Fear et al., 2007).

Hypothesis: Alcohol misuse will vary between Service arms; in particular RAF personnel will report lower levels of alcohol misuse.

Length of service

⁹⁷ Adjustments were for rank, marital status, Service arm, smoking, age, part-time military status, and serving cohort (Gulf, Bosnia, or non-deployed).

There is evidence that alcohol misuse increases over time in service, as found in a study of alcohol and tobacco usage following up a 2001 UK tri-Service cohort three years later (Hooper et al., 2008). This study only considered binge drinking and weekly alcohol consumption, not other dimensions of alcohol abuse, and so only describes a partial picture. Most importantly, this study involved changes over only three years, and comprised of personnel who were serving at the time of beginning the study (rather than veterans). The King's clinical interview study of an Iraq-era cohort found that alcohol misuse was lower in older participants (Iversen et al., 2009), while the main study of that cohort also shows that older personnel are less likely to be heavy drinkers (Fear et al., 2007). Outside the King's cohorts, a comparison between UK veterans and age- and sex-matched non-veterans in the Adult Psychiatric Morbidity Survey showed that ESLs were more likely to be heavy drinkers (Woodhead et al., 2011). In the civilian population, alcohol abuse tends to increase from the 16-24 age group to the 25-34 age group, but decrease from then on (McManus et al., 2009).

Hypothesis: Alcohol misuse will decrease with length of service.

Deployment/role

The previously-mentioned San Diego study of medical records of nearly 2 million Gulf War personnel found that deployment was associated with a significantly increased risk of hospitalisation due to alcohol-related causes (Dlugosz et al., 1999). Another study of US personnel also found deployment associated with heavy drinking behaviours, despite different US attitudes to alcohol (Jacobson et al., 2008; Hawkins et al., 2010). Others have separately associated alcohol abuse and exposure to threats and atrocities on deployment (Wilk et al., 2010).

The King's Iraq/Afghanistan cohort also showed that deployment (particularly in a combat arm) was associated with increased reporting of alcohol misuse (Fear et al.,

2010; Fear et al., 2007). A separate study of 1,382 UK personnel active over a similar time period, of which 941 were followed up 3 years later, found increased rates of alcohol abuse, particularly for those who had deployed (Hooper et al., 2008).

Hypothesis: Deployment and combat role will be associated with increased reporting of alcohol misuse.

Method of leaving

Little literature considers the effect of unplanned leaving on service leavers' alcohol abuse. However, given the effect of unplanned leaving on mental health in general (Kessler et al., 1987), it is expected that alcohol misuse would follow the same pattern.

Hypothesis: Unplanned leaving will be associated with alcohol misuse.

12.3.3 Post-service/current variables

Education

The King's UK cohort of Gulf War-era personnel showed no significant difference in levels of alcohol misuse between education groups (Iversen et al., 2007b). Clinical interviews of the King's Iraq War cohort showed no significant difference between education groups (Iversen et al., 2009), and nor did the postal survey of the King's Iraq cohort (Fear et al., 2007).

Hypothesis: Educational attainment will have no effect on alcohol misuse.

Time since leaving

Comparing leavers to those still in service among the King's Gulf War cohort showed that those who had left showed lower levels of heavy drinking than those still in service (Iversen et al., 2007b). As indicated above, increasing age also tends to reduce levels of alcohol misuse (though they may rise in the short term).

Hypothesis: Longer time since leaving will be associated with lower alcohol misuse.

Relationship status/having children

The King's clinical interview study of Iraq-era veterans found long-term relationships to have had a significant effect on alcohol abuse (Iversen et al., 2009), as did the postal sample of the King's Iraq cohort (Fear et al., 2007). The latter study also indicated that having children at home was associated with lower alcohol misuse.

Hypothesis: Long-term relationships and having children will be associated with lower alcohol misuse.

Resettlement

Resettlement is not intended as an alcohol-related intervention, and there is no reason to predict any association.

Hypothesis: Resettlement will not affect alcohol misuse.

12.3.4 Summary of expected effects: alcohol misuse

Table 12-7 summarises the hypotheses regarding alcohol misuse.

Table 12-7 Expected associations with alcohol misuse

<i>Effect</i>	<i>Factor</i>
Factors associated with alcohol misuse	Pre-enlistment vulnerability
	Being male
	Lower rank
	Not serving in the RAF
	Shorter service
	Deployment
	Combat role
	Unplanned leaving
	Shorter time after leaving
	Being single
	Not having children
No association	Resettlement
	Education

Observed associations are shown in Table 12-8.

Table 12-8 Factors associated with alcohol misuse

<i>Category (n = 1,692)</i>	<i>AUDIT-16 cases (%⁹⁸)</i>	<i>Unadjusted OR</i>	<i>Adjusted OR⁹⁹</i>
Total	222 (14.9)		
<i>Pre-enlistment variables</i>			
Sex			
Male	207 (15.5)	1	1
Female	15 (8.9)	0.53 (0.30-0.93)*	0.58 (0.29-1.18)
Pre-enlistment vulnerability (per count)		1.25 (1.19-1.31)***	1.21 (1.14-1.28)***
<i>Military variables</i>			
Service			
Royal Navy	30 (13.5)	0.74 (0.48-1.14)	1.39 (0.77-2.53)
Army/Royal Marines	162 (17.3)	1	1
RAF	30 (8.5)	0.44 (0.29-0.68)***	0.79 (0.45-1.39)
Rank			
Officer	22 (7.0)	0.60 (0.37-0.98)*	0.71 (0.38-1.35)
NCO	107 (11.1)	1	1
Other rank	93 (27.2)	3.00 (2.18-4.11)***	1.86 (1.15-3.00)**
Length of service as a regular (per year)		0.93 (0.92-0.95)***	0.97 (0.94-0.99)*
Deployment on HERRICK/TELIC			
Yes	138 (16.5)	1	1
No	84 (12.7)	0.74 (0.55-1.00)	1.00 (0.68-1.47)
Role in parent unit			
Combat	73 (25.5)	2.79 (1.97-3.96)***	1.61 (1.02-2.55)*
Combat Support	21 (14.0)	1.33 (0.79-2.23)	1.22 (0.67-2.21)
Combat Support Services	93 (10.9)	1	1
Method of leaving			
Planned	171 (13.1)	1	1
Unplanned	47 (32.3)	3.15 (2.14-4.63)***	2.48 (1.55-3.98)***

⁹⁸ Response weighted.

⁹⁹ Adjusted for PEV (as a continuous variable), sex, Service arm, rank, length of service, deployment, role method of leaving, relationship status, having children, and time after leaving.

<i>Category (n = 1,692)</i>	<i>AUDIT-16 cases (%)</i>	<i>Unadjusted OR</i>	<i>Adjusted OR</i>
<i>Post-service/current variables</i>			
Relationship status			
Single	63 (21.4)	1.80 (1.29-2.50)**	1.41 (0.92-2.16)
Long-term relationship	159 (13.2)	1	1
Has children			
Yes	97 (13.0)	1	1
No	115 (16.9)	1.29 (0.96-1.72)	1.07 (0.74-1.55)
Time after leaving (per year)		0.87 (0.79-0.96)**	0.93 (0.83-1.05)
<i>Resettlement</i>			
Entitlement to resettlement			
Yes	171 (12.7)	1	1
No	51 (25.8)	2.39 (1.66-3.44)***	0.92 (0.54-1.54)
Taking resettlement (for those with entitlement)			
Yes	128 (11.5)	1	1
No	28 (18.3)	1.72 (1.09-2.71)*	1.06 (0.61-1.85)

* p < 0.05

** p < 0.01

*** p < 0.001

Pre-enlistment vulnerability is associated with alcohol misuse, but the effect of sex is not significant after adjustment (primarily for role). There is no significant difference between Service arms – ex-RAF personnel are not less likely to misuse alcohol after adjustment, primarily for role. Officers were not less likely to misuse alcohol than NCOs after adjustment for pre-enlistment vulnerability; other ranks were more prone to alcohol misuse, though the effect was reduced by adjustment for other factors (particularly length of service).

Length of service itself was significant in predicting alcohol misuse, though the effect size is reduced after adjustment for rank. Despite hypotheses, deployment was not significantly associated with alcohol misuse, but having a combat role was (though the effect size was reduced by adjustment for pre-enlistment vulnerability, rank and length of service). Unplanned leavers were also more likely to suffer alcohol misuse, though the effect size was reduced by adjustment (particularly for PEV, rank and length of service).

12.3.5 Comparison with hypotheses: alcohol misuse

Findings from Table 12-8 are summarised in Table 12-9, with a comparison between these findings and the hypotheses in Table 12-7.

Table 12-9 Observed associations with alcohol misuse

<i>Factor</i>	<i>Observation</i>
Factors expected to be associated with alcohol misuse	
Pre-enlistment vulnerability	Associated with alcohol misuse
Being male	No association
Lower rank	Other ranks have higher alcohol misuse, but no difference between officers and NCOs
Not serving in the RAF	No association
Shorter service	Associated with alcohol misuse
Deployment	No association
Combat role	Associated with alcohol misuse
Unplanned leaving	Associated with alcohol misuse
Shorter time after leaving	No association
Being single	No association
Not having children	No association
Expected to have no association	
Resettlement	No association
Education	No association

12.4 Physical violence

Acts of physical violence by veterans are rarely investigated as an issue in itself. Instead, it is usually considered as an outcome linked to other mental health outcomes, notably PTSD. A small (n=42) study of US combat veterans (mostly from the Vietnam War) with PTSD showed a correlation between PTSD symptomatology and scores on anger measures (Frueh et al., 1997). Another study of 114 US veterans (again primarily Vietnam-era) compared PTSD-sufferers with a control group with equivalent histories of alcohol and substance abuse, showing that the PTSD group have higher levels of self-reported aggression and higher incidence of dangerous firearm-related behaviours (Freeman and Roca, 2001). More recently, a small study found that PTSD-affected veterans of recent conflicts in Iraq and Afghanistan showed more aggression towards partners, and experienced more aggression from their partners, than similar non-PTSD affected veterans or PTSD-affected Vietnam veterans (Teten et al., 2010). When combined with alcoholism, PTSD subjects may have even higher propensity for aggression (Babic et al., 2010).

Combat experiences, being a major factor in PTSD studies, are also considered as a factor in expressing anger. A study using data from the National Vietnam Veterans Readjustment Survey looked at the effects of killing enemy combatants, civilians, and prisoners. The study controlled for combat in general, and found killing both generally and of the enemy alone predicted PTSD symptoms and violent behaviour (Maguen et al., 2009). The same team also investigated the effects of killing on soldiers who had fought in Iraq; this also found associations between killing and both PTSD and anger, even after controlling for general combat exposure (Maguen et al., 2010a).

Studies examining anger and violence outside of the context of PTSD found that deployment does not appear to directly predict marital violence (McCarroll et al., 2003).

Thus, given the link between violent anger and PTSD (and lack of literature exploring causes for anger outside the context of PTSD), hypotheses regarding anger are the same as those for probable PTSD (Table 12-6). None of the specific literature regarding anger and violence by military personnel discussed above contradicts these hypotheses. Observed associations are shown in Table 12-10.

Table 12-10 Factors associated with physical violence

<i>Category (n = 1,694)</i>	<i>Physical violence (%¹⁰⁰)</i>	<i>Unadjusted OR</i>	<i>Adjusted OR¹⁰¹</i>	<i>Adjusted for resettlement¹⁰²</i>
Total	98 (6.9)			
<i>Pre-enlistment variables</i>				
Sex				
Male	91 (7.1)	1	1	1
Female	7 (4.7)	0.65 (0.29-1.43)	1.37 (0.53-3.53)	1.60 (0.55-4.62)
Pre-enlistment vulnerability (per count)		1.33 (1.24-1.42)***	1.29 (1.20-1.39)***	1.31 (1.20-1.44)***
<i>Military variables</i>				
Service				
Royal Navy	9 (4.1)	0.44 (0.21-0.90)*	0.57 (0.21-1.57)	0.73 (0.27-1.99)
Army/Royal Marines	80 (8.8)	1	1	1
RAF	9 (3.2)	0.34 (0.17-0.70)**	0.63 (0.27-1.45)	0.33 (0.10-1.13)
Rank				
Officer	2 (0.8)	0.15 (0.04-0.64)*	0.28 (0.06-1.18)	0.30 (0.07-1.28)
NCO	46 (4.9)	1	1	1
Other rank	50 (14.6)	3.34 (2.18-5.12)***	2.56 (1.53-4.29)***	3.00 (1.59-5.65)**
Length of service (per year)		0.90 (0.87-0.92)***	0.95 (0.91-0.99)**	0.94 (0.90-0.98)**
Deployment on HERRICK/TELIC				
Yes	65 (8.0)	1	1	1
No	33 (5.4)	0.66 (0.42-1.02)	1.19 (0.70-2.04)	0.98 (0.52-1.84)
Role in parent unit				
Combat	44 (15.1)	4.15 (2.55-6.75)***	2.80 (1.63-4.82)***	3.08 (1.58-6.00)**
Combat Support	7 (4.5)	1.10 (0.47-2.55)	1.07 (0.43-2.65)	1.09 (0.37-3.24)
Combat Support Services	32 (4.1)	1	1	1

¹⁰⁰ Response weighted.¹⁰¹ Adjusted for PEV (as a continuous variable), sex, Service arm, rank, length of service, deployment, role method of leaving, relationship status, having children, and time after leaving.¹⁰² Adjusted for same factors and taking resettlement.

<i>Category (n = 1,694)</i>	<i>Physical violence (%)</i>	<i>Unadjusted OR</i>	<i>Adjusted OR</i>	<i>Adjusted for resettlement</i>
Method of leaving				
Planned	79 (6.5)	1	1	1
Unplanned	19 (13.4)	2.25 (1.31-3.86)**	1.48 (0.74-2.95)	1.51 (0.53-4.26)
Post-service/current variables				
Education				
O-levels-	65 (10.8)	3.07 (1.94-4.87)***	2.17 (1.28-3.70)**	2.50 (1.33-4.71)**
A-levels+	29 (3.8)	1	1	1
Relationship status				
Single	32 (11.0)	2.00 (1.27-3.14)**	1.92 (1.09-3.37)*	2.03 (1.03-3.99)*
Long-term relationship	66 (5.8)	1	1	1
Has children				
Yes	51 (7.2)	1	1	1
No	46 (7.2)	1.00 (0.66-1.52)	0.84 (0.48-1.47)	0.98 (0.51-1.88)
Time after leaving (per year)		0.74 (0.57-0.97)*	0.81 (0.58-1.15)	0.71 (0.47-1.08)
Resettlement				
Entitlement to resettlement				
Yes	70 (5.5)	1	1	-
No	28 (13.7)	2.73 (1.70-4.38)***	0.92 (0.49-1.73)	-
Taking resettlement (for those with entitlement)				
Yes	47 (4.5)	1	1	-
No	19 (12.9)	3.13 (1.77-5.53)***	2.56 (1.24-5.27)*	-

* p < 0.05

** p < 0.01

*** p < 0.001

There is no significant difference in physical violence between males and females.

Higher pre-enlistment vulnerability was associated with physical violence. Other ranks were more likely to report physical violence, while commissioned officers were not less

likely than NCOs to report violence after adjustment (again, primarily for PEV). Shorter service was also associated with physical violence, though the effect size was reduced by adjustment for role and rank. Deployment had no significant effect, though the odds ratio was altered by adjustment (primarily for role). Combat role itself was significant with a large effect size, though that effect was reduced by adjustment for rank and PEV. Single personnel were more likely to report physical violence. Not taking resettlement was associated with physical violence, though the effect was reduced after adjustment (for multiple factors).

12.5 Comparison of in-Service and post-Service mental health and alcohol misuse

As describe in Chapter 4.8.6, mental health and alcohol misuse outcomes were compared before and after transition, to understand how the transition process affects these outcomes.

Table 12-11 shows the phase 1 and 2 comparison for CMD prevalence. There was a smaller number of new cases than remitted cases, though there was no significant difference between phase 1 and phase 2 (two-sample test of proportions $p = 0.286$).

Table 12-11 Proportions of veterans with CMD at phase 1 and phase 2¹⁰³

CMD caseness at phase 1	<i>Not a CMD case at phase 2 (n = 742)</i>	<i>CMD case at phase 2 (n = 221)</i>
<i>Non-case (n = 722)</i>	612 (62.7%)	110 (11.7%)
<i>Case (n = 241)</i>	130 (13.6%)	111 (12.0%)

Regarding PTSD symptoms there are more new cases; again, there was no significant difference between phase 1 and phase 2 ($p = 0.085$) (Table 12-12).

¹⁰³ Percentages are response-weighted cell proportions.

Table 12-12 Proportions of veterans with probable PTSD caseness at phase 1 and phase 2¹⁰⁴

PCL caseness at phase 1	<i>Not a PCL case at phase 2 (n = 892)</i>	<i>PCL case at phase 2 (n = 67)</i>
<i>Non-case (n = 910)</i>	866 (89.7%)	44 (4.9%)
<i>Case (n = 49)</i>	26 (2.9%)	23 (2.5%)

Alcohol misuse showed slightly fewer new cases than remitted cases, but again no significant difference ($p = 0.076$) (Table 12-13).

Table 12-13 Proportions of veterans misusing alcohol caseness at phase 1 and phase 2¹⁰⁵

AUDIT-16 caseness at phase 1	<i>Not an AUDIT-16 case at phase 2 (n = 836)</i>	<i>AUDIT-16 case at phase 2 (n = 121)</i>
<i>Non-case (n = 809)</i>	759 (77.7%)	50 (5.5%)
<i>Case (n = 148)</i>	77 (8.9%)	71 (7.9%)

Overall there was no significant difference in symptoms of poor mental health over the transition period, and each outcome showed a high level of variation (with around ½ of in-Service affected personnel remitting by phase 2).

¹⁰⁴ Percentages are response weighted cell proportions.

¹⁰⁵ Percentages are response weighted cell proportions.

Chapter 13 Overall model

This chapter constructs a series of models of overall socio-economic and mental welfare disadvantage of veterans, and determines how resettlement is involved in these relationships. After discussing the relevant literature, I generate a model of the relationships between outcomes. As this chapter focuses on disadvantage, this overall model utilises negative outcomes (e.g. unemployment rather than employment), although relevant literature may discuss both positive and negative aspects (e.g. both employment and unemployment) in order to obtain a complete overview of each potential relationship. The effect of resettlement is then integrated into this model. This chapter also includes analyses of combined outcome measures, and how these measures are affected by socio-demographic and military factors (including resettlement).

This chapter focuses on adverse outcomes – hence “unemployment” is used rather than “employment”, and living in temporary accommodation (as opposed to either renting or owning a home) is used. Physical violence is not included as it is closely correlated with PTSD¹⁰⁶.

13.1 Literature on relationships between social and mental health outcomes

13.1.1 Unemployment and housing

In the general population, home-owners tend to show higher employment levels than renters (Coulson and Fisher, 2002; van Leuvensteijn and Koning, 2004; Munch et al., 2006), despite potential reduction in job mobility due to home ownership (De Graaff and Van Leuvensteijn, 2011). While this chapter considers comparisons with those in temporary accommodation, rather than comparing ownership with rented

¹⁰⁶ 27% of PTSD-affected respondents report physical violence, as opposed to only 5% of those who are not PTSD cases. Unadjusted OR 6.41, 95% confidence intervals 3.92-10.48; adjusting for the same factors as PTSD model and resettlement gives OR 4.44, 95% confidence intervals 2.03-9.71.

accommodation (as stated above), there is no reason to reject the overall trend that more settled individuals have higher employment levels. Literature specifically on the relationship between temporary housing and employment is sparse, though there is evidence that Britons who are unemployed are more likely to move (Böheim and Taylor, 2002), though the group most likely to move were private renters (those with mortgages were least likely to move). A 1989 British survey found that, among households qualifying as “homeless” (and hence being housed by local authorities – rough sleepers were not included), only 24% had one or more members in employment, dropping to 6% among single respondents without children (Thomas et al., 1989).

The King’s interview study of UK veterans found that those lacking settled housing have difficulty finding employment, a particular risk for single servicemen (Dandeker et al., 2003).

Hypothesis: Unemployment will be associated with being in temporary accommodation.

13.1.2 Unemployment and legal difficulty¹⁰⁷

Unemployment is associated with criminal activity in the civilian population (Carmichael and Ward, 2001; Steven Raphael and Rudolf Winter- Ebmer, 2001). The Home Office surveys of imprisoned ex-Service personnel revealed criminal veterans are likely to be unemployed; only 26% had a job to go to on release, and most reported that they had received no advice or assistance despite being jobless on discharge (Dandeker et al., 2003).

Hypothesis: Unemployment will be associated with legal difficulty.

¹⁰⁷ Most existing research focuses on those who have been convicted, and often incarcerated, rather than those self-reporting legal difficulties; hence literature described in this chapter on the topic of legal difficulty does not necessarily describe the same outcome as in this study.

13.1.3 Unemployment and social integration

Social integration can play a crucial role in obtaining employment, as many jobs are acquired informally through peer connections rather than formal job-finding and application (MacLean and Edwards, 2010; Tavecchio et al., 1999; Bassuk et al., 1997). While the effect of social contacts on employment is not well-studied as regards modern Service leavers, there is no reason to hypothesize that it would differ from the experience of the general population.

Hypothesis: Those with smaller social networks¹⁰⁸ will be more likely to be unemployed.

13.1.4 Unemployment and mental health

In the general population, unemployment is associated with poor mental health (Warr et al., 1988; Paul and Moser, 2009), and both gaining and losing employment can impact mental health (Murphy and Athanasou, 1999).

This association appears to hold for ex-Service personnel. A study of US Vietnam veterans found that both earnings and the likelihood of employment decreased for those with PTSD and other psychiatric disorders (Savoca and Rosenheck, 2000). A study of female US Vietnam veterans similarly found an association with unemployment and PTSD (Zatzick et al., 1997). A study of New Zealand veterans of Vietnam similarly found higher unemployment rates for those with PTSD (Vincent et al., 1994). A study of over 2000 monozygotic male Vietnam veteran twin pairs reached a similar result; where the twins were discordant for PTSD, after adjustment for pre-military and military service factors, unemployment was significantly associated with PTSD. More recently, Engel found psychological conditions among Gulf War veterans significantly associated with workdays lost (Engel et al., 1999). Another study of US Operations

¹⁰⁸ Defined in Chapter 4.7.6 as having 0-2 friends and/or relatives in regular social contact.

Enduring/Iraqi Freedom found that PTSD (along with depressive and anxiety disorders) impaired job performance in several ways (Adler et al., 2011). However, one positive finding is that, while both war and adult and childhood experiences can have long-term effects on mental health, the harmful effects of unemployment on mental health may be mitigated by employment (Vinokur et al., 1987). In the UK, the King's Gulf War cohort showed lower likelihood of gaining employment among CMD cases (though PTSD had no effect) (Iversen et al., 2005b).

There are suggestions that it is not merely the presence of PTSD as a mental health issue that is at the heart of its socio-economic consequences; it may be that the specific symptomatology of PTSD plays a part. A study of male Vietnam veterans with severe PTSD found even modest reductions in PTSD symptoms can improve employment status, even where the overall level of symptoms remains high (Smith et al., 2005). One study of combat veterans (mostly from the Vietnam War) with PTSD showed that higher scores on anger measures were correlated with PTSD symptomatology, and also related to employment status independent of PTSD severity (Frueh et al., 1997). Another study involved a battery of neuropsychological tests. This concluded that veterans with PTSD had similar total intelligence to non-PTSD veteran controls, but deficits of memory performance (unrelated to IQ or length/time since trauma exposure), with memory performance accurately predicting occupational and social functioning. However, this was a small study (n=25 for each group) on a slightly unusual sample (Dutch peacekeeping veterans) (Geuze et al., 2009). From these results, no one symptom appears to be the root cause of PTSD-associated socio-economic difficulty.

Hypothesis: Those who are unemployed are more likely to have negative mental health outcomes.

13.1.5 Unemployment and alcohol misuse

A review of over 130 studies investigating the relationship between unemployment and alcohol/substance abuse in the general population found that unemployment was consistently associated with heavy and harmful drinking (Henkel, 2011). However, after adjustment for other factors, the King's Gulf War cohort did not show any significant difference between heavier and lighter drinkers with respect to gaining a job after service (Iversen et al., 2005b).

Hypothesis: Unemployment will not be associated with alcohol misuse.

13.1.6 Housing and legal difficulty

Those in poor housing situations in the general population are consistently found to be more likely to be in legal difficulty. A US study found a strong association between homelessness and incarceration among veterans (although the subjects in that study were all Veterans Affairs patients with bipolar disorder, hence an especially vulnerable population) (Copeland et al., 2009). UK government surveys have found that 15.4% of prisoners are homeless before custody, as opposed to 3.5% of the general population ever having been homeless. 79% of prisoners who were homeless before custody reconvicted within a year of release, as opposed to 47% who were not homeless before custody (Ministry of Justice, 2010).

In London, a study by the homeless charity "Crisis" found that most of the homeless veterans within the sample claimed they had received little assistance on leaving. 70% reported health problems, and 43% had been incarcerated (Randall, 1994). Another interview study of UK homeless ex-service personnel found that 25% had been incarcerated (Milroy, 1998). Home Office surveys of imprisoned ex-Service personnel found that 30% of veteran prisoners would be homeless on leaving, and most reported that they had received no assistance in planning accommodation on discharge (Dandeker et al., 2003)

Hypothesis: Those in temporary accommodation will be more likely to have experienced legal difficulty.

13.1.7 Housing and social integration

Home ownership, by reducing mobility, can increase local social integration among the general population (Trumbetta et al., 1999). Supportive social networks also play a role in protecting at-risk youths (Tavecchio et al., 1999) and adults (Bassuk et al., 1997; Bassuk and Rosenberg, 1988) from homelessness. Furthermore, social support may moderate housing-related stressors (Smith et al., 1993), and may facilitate exit from homelessness (at least among those who are not substance abusers) (Zlotnick et al., 2003).

Hypothesis: Those with a smaller social network are more likely to be in temporary housing.

13.1.8 Housing and mental health

In the US, service-related mental health has been investigated as a potential cause of homelessness. Among Vietnam returnees, those exposed to high levels of combat-related stress (according to retrospective self-report) were twice as likely to become homeless (Kulka et al., 1990). Homeless veterans with PTSD may have an increased risk for chronic homelessness compared with veterans without PTSD (Denkin, 2004).

Hypothesis: Adverse mental health outcomes will be associated with being in temporary housing.

13.1.9 Housing and alcohol misuse

Alcohol dependency has been implicated as a marker of vulnerability to homelessness among the UK veteran population (Milroy, 1998). Veteran status has also been identified as a risk factor in alcohol abuse among homeless US populations (Dietz and Dietz, 2007; Winkleby and Fleshin, 1993).

Hypothesis: Those in temporary accommodation will be more likely to misuse alcohol.

13.1.10 Mental health and social integration

US Veterans Affairs patients with mental illness report low social support (Kilbourne et al., 2007). PTSD-affected US veterans of the Gulf War were less likely to be satisfied with their family support systems, and reported a lack of communication within the family (Sutker et al., 1995). A study of US married male combat veterans found levels of PTSD related to support from family, significant others, and military peers, but not other friends (Wilcox, 2010). Veterans without PTSD tend to perceive higher levels of social support from family and friends, and report more people providing them with social support, than PTSD-affected veterans (Jelusic et al., 2010).

Hypothesis: Having a small social network will be associated with poor mental health.

13.1.11 Legal difficulty and mental health

A telephone survey of nearly 4000 US Gulf War veterans found that nearly one quarter reported previous incarceration. This was associated with high psychiatric/medical co-morbidity and health care utilisation (Black et al., 2005). Multivariate analysis of US Veterans Affairs patients (sampled 1993-1997) indicated that major depression was associated with likelihood of incarceration, but schizophrenia and personality disorders were not associated (Erickson et al., 2008). A US study considered Vietnam veterans participating in a Veterans Administration counselling program, and found a relationship between severity of PTSD and criminality. Multiple regression showed associations between PTSD and drink-driving, assault and disorderly conduct, with depression also predictive of the latter two offences (Wilson and Zigelbaum, 1983). Among a sample of 129 incarcerated US veterans, those with PTSD report more serious legal problems, more psychiatric symptoms, and a higher alcohol and narcotics usage (Saxon et al., 2001). Another survey of homeless veterans in the US found associations between criminality and poor mental health and substance abuse (Benda et al., 2003). A

US comparison of PTSD veterans with unaffected veterans with equivalent histories of alcohol and substance abuse showed that those with PTSD have higher levels of self-reported aggression, different attitudes to crime, and higher incidence of dangerous firearm-related behaviours, indicating that PTSD predisposes an individual toward antisocial behaviour (Freeman and Roca, 2001).

Not all evidence points in the same direction. Shaw considered a sample of incarcerated Vietnam veterans in Iowa City, and found a high rate of PTSD (39%) – but no difference between the incarcerated sample and a control group of non-incarcerated veterans. Furthermore, there was no difference in the level of violent crimes in the PTSD group and the non-PTSD group (58% in each). The numbers involved were small, however; 31 and 30 respectively. This study did find differences in pre-military factors, with incarcerated veterans more likely to report legal and school difficulties, and problems with authority figures. 36% were diagnosable as having anti-social personality disorder against 7% of controls, while a further 42% had antisocial traits but did not fulfil diagnostic criteria. 71% were alcohol dependent and 58% admitted drug abuse (against 43% and 38% respectively in controls). Both alcohol and drug abuse were associated with PTSD. Nonetheless this study found that, while PTSD was linked to some other social problems, it was not associated with incarceration rates. The authors make the point that previous studies are based on arrest data, not incarceration rates; this may account for the difference with some other results (Shaw et al., 1987). This suggests the possibility that PTSD may cause more reckless and violent behaviour, and more psychological symptoms, but not actually increase chance of incarceration.

Hypothesis: Negative mental health outcomes will be associated with legal difficulty.

13.1.12 Social integration and legal difficulty

Literature on social networks and criminality typically focus on how criminal behaviour is a consequence of social network composition, rather than result of a small social network (Calvó-Armengol and Zenou, 2004; Ferrer, 2010; Patacchini and Zenou, 2008). There is little literature implying that a small or large social network would give rise to criminal activity in itself.

Hypothesis: Social network size will not be associated with encountering legal difficulty.

13.1.13 Social integration and alcohol misuse

Individuals identified as having a drinking problem did not necessarily have a small social network; instead, heavy drinkers show social network sizes around 7 (Mohr et al., 2001; Strug and Hyman, 1981). The nature of the individual's network may be important, however; after treatment for alcohol abuse, social networks of former heavy drinkers shifted to be composed of more non-drinkers (Mohr et al., 2001). Smaller social networks predict heavier alcohol use over time among a US homeless population (Trumbetta et al., 1999), but this is a niche, high-risk group and not necessarily representative of veterans in general.

Hypothesis: There will be no association between social network size and alcohol misuse.

13.2 Associations between outcomes: unadjusted analysis

To determine how outcomes were related to one another, I first tested each potential pair of outcomes for any association; that is, I performed logistic regression with, for example, employment as the outcome and legal difficulty as the exposure. According to these pairwise associations, each of the chosen outcomes (not being employed, being in temporary accommodation, getting into trouble with the law, having a small social

network, showing symptoms of common mental disorders, and misusing alcohol) was associated with each other factor in an unadjusted analysis (Table 13-1), with the exception of having small social network; this is associated only with poor mental health outcomes.

Not all outcomes in this thesis were included in the overall model. Occupational transience and residential transience were excluded because high scores in these may not necessarily imply disadvantage (as they may represent voluntary migration); furthermore, including them in the model would not add much value as the model includes unemployment and temporary accommodation. For similar reasons, maximum length of unemployment was not included. Physical violence was not included as it is of relatively low frequency, and in any case, angry outbursts are a symptom of PTSD which is more prevalent in this sample.

13.2.1 A note on reading tables in this chapter

Tables such as Table 13-1 may need additional explanation. Odds ratios are for the association between each pair of variables; in Table 13-1 these are unadjusted for any other factors (thus the regression is symmetrical; it is irrelevant which variable is used as the exposure and which is used as the outcome). Thus, reading from the first row of results, the odds ratio for the association between unemployment and temporary housing is 4.20. The table also contains descriptive statistics regarding the relationship; “% of B in A” refers to the proportion of the horizontal category present in the vertical category. For example, again from the first row, 39% of those in temporary housing are not employed. Meanwhile, from the second row, 19.9% of those who are not employed are in temporary housing.

Table 13-1 Unadjusted pairwise associations between outcomes

<i>A</i> ↓	<i>B</i> →	<i>Not empl.</i>	<i>Temporary housing</i>		<i>Legal difficulty</i>		<i>Small social network</i>		<i>CMD</i>		<i>Probable PTSD</i>		<i>Alcohol misuse</i>	
		% B in A	% B in A	OR (95% CI)	% B in A	OR (95% CI)	% B in A	OR (95% CI)	% B in A	OR (95% CI)	% B in A	OR (95% CI)	% B in A	OR (95% CI)
Not employed			39.0	4.20 (2.75-6.43)***	26.5	2.14 (1.25-3.66)**	13.8	0.86 (0.62-1.19)	29.1	3.24 (2.43-4.34)***	35.9	3.59 (2.38-5.41)***	20.4	1.57 (1.08-2.28)*
Temporary housing	19.9				17.5	2.72 (1.40-5.29)**	5.9	0.70 (0.42-1.18)	14.7	2.83 (1.87-4.28)***	23.7	4.54 (2.72-7.56)***	16.2	2.92 (1.84-4.63)***
Legal difficulty	8.8	11.2					4.0	0.72 (0.40-1.30)	10.9	3.63 (2.23-5.90)***	19.4	6.16 (3.54-10.70)***	19.1	8.98 (5.47-14.75)***
Small social network	22.5	19.1			19.5				42.1	2.95 (2.29-3.79)***	45.8	2.82 (1.92-4.14)***	22.6	0.88 (0.63-1.22)
CMD	43.0	42.5			49.2		38.3				87.7	35.54 (19.78-60.32)***	43.8	3.36 (2.47-4.56)***
PTSD	18.2	23.6			30.0		14.2		30.0				25.5	7.20 (4.80-10.80)***
Alcohol misuse	20.2	31.4			56.4		13.7		28.7		49.6			

* p < 0.05 ** p < 0.01 *** p < 0.001

13.3 Associations between outcomes: adjusted analysis

An adjusted model for each pairwise association was constructed (except for small social network, which is only analysed in relation to CMD/probable PTSD due to the lack of association with other outcomes). This involved running logistic regressions for each outcome pair, and adjusting that pairwise model for each independent socio-demographic and military variable which had previously been shown to be associated with **both** outcomes. For example, when modelling the association between CMD and unemployment, the odds ratio was adjusted for PEV, rank, and method of leaving, as these factors were significantly associated with both CMD and unemployment. Results are shown in Table 13-2; note that, due to the introduction of the independent variables, logistic regression models are no longer symmetrical so odds ratios are slightly different depending on which variable is treated as the outcome and which as the exposure variable.

Table 13-2 Pairwise associations between outcomes (adjusted for relevant factors in common)

<i>Exposure variable →</i>	<i>Not employed</i>	<i>Temporary housing</i>	<i>Legal difficulty</i>	<i>Small social network</i>	<i>CMD</i>	<i>Probable PTSD</i>	<i>Alcohol misuse</i>
<i>Outcome↓</i>	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)
Not employed	-	2.85 (1.60-5.09)***	2.16 (1.07-4.39)*	-	2.91 (2.14-3.95)***	2.69 (1.62-4.48)***	1.26 (0.79-2.00)
Temporary housing	2.82 (1.63-4.87)***	-	1.53 (0.62-3.75)	-	2.39 (1.53-3.73)***	2.80 (1.46-5.36)**	1.71 (0.96-3.02)
Legal difficulty	2.29 (1.17-4.49)*	1.30 (0.54-3.15)	-	-	2.20 (1.26-3.85)**	2.23 (0.97-5.12)	5.50 (2.77-10.92)***
Small social network	-	-	-	-	2.79 (2.15-3.62)***	2.48 (1.66-3.72)***	-
CMD	2.90 (2.14-3.94)***	2.40 (1.53-3.76)***	2.13 (1.24-3.64)**	2.80 (2.16-3.63)***	-	24.45 (13.73-43.54)***	2.37 (1.68-3.35)***
Probable PTSD	2.59 (1.57-4.26)***	2.90 (1.52-5.53)**	2.74 (1.33-5.63)**	2.59 (1.73-3.88)***	24.48 (13.77-43.54)***	-	3.71 (2.16-6.36)***
Alcohol misuse	1.25 (0.80-1.94)	1.71 (0.98-2.98)	5.53 (3.00-10.19)***	-	2.39 (1.70-3.36)***	3.71 (2.14-6.41)***	-

* $p < 0.05$

** $p < 0.01$

*** $p < 0.001$

Most associations persist after adjustment for independent factors. The resulting relationships between outcomes are shown diagrammatically in Figure 13-1.

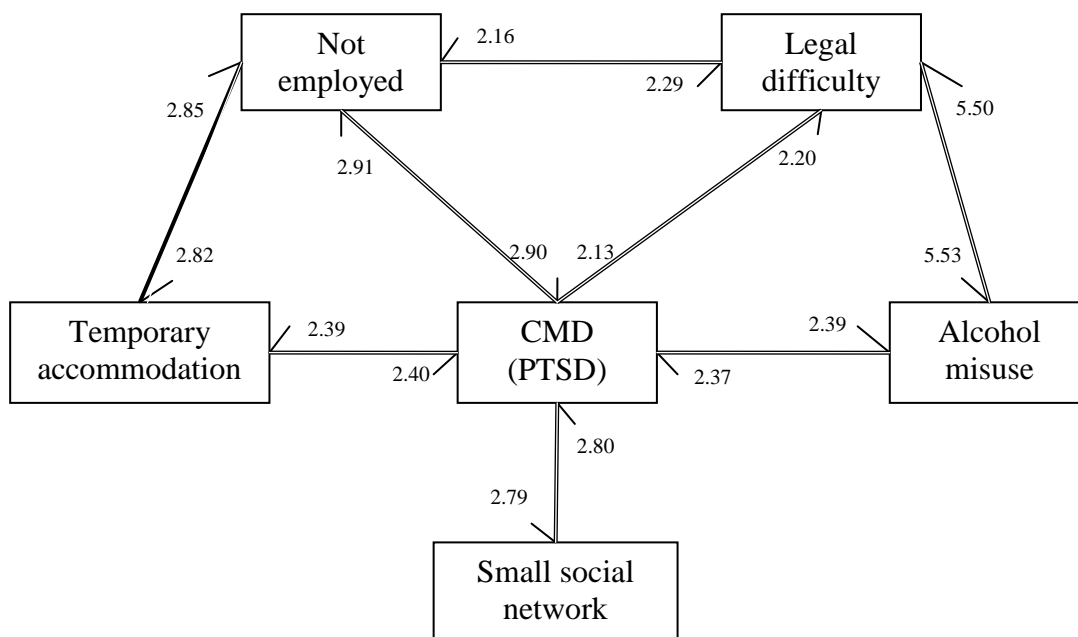


Figure 13-1 Relationships between outcomes (after adjustment)¹⁰⁹

Some outcomes form “three-way” relationships; for example, unemployment is associated with both CMD and temporary accommodation, and CMD and temporary accommodation are associated with each other. It is possible that any two of the three relationships could explain the third; e.g. the separate effects of the associations between CMD-unemployment and CMD-temporary accommodation could explain the unemployment-temporary accommodation association. To determine whether pairwise associations in these “triangular relationships” were explained by the effect of the third member of the relationship, these triangular relationships were analysed by a regression model including all three of the outcomes in question (not adjusted for other factors).

The association between legal difficulty and unemployment is not significant after

¹⁰⁹ Numbers by arrow heads indicate odds ratios of associations (arrow head at outcome variable, arrow base to exposure variable). Odds ratios for PTSD not shown for clarity (see

Table 13-2 for relevant odds ratios), but associations between PTSD and other outcomes are as with CMD.

adjustment for CMD or probable PTSD; all other associations in these “triangular” relationships remain significant.

13.4 Effect of resettlement

As the first step to determining how resettlement is involved in the relationships between outcomes, the association between taking resettlement and each outcome was calculated (for those entitled to resettlement only), without adjusting for any independent variables (Table 13-3).

Table 13-3: Unadjusted associations between each outcome and resettlement (for entitled personnel)

<i>Outcome</i>	<i>OR of association with taking resettlement (95% CI)</i>
Not employed	0.42 (0.28-0.62)***
Temporary accommodation	0.47 (0.25-0.85)*
Legal difficulty	0.44 (0.22-0.90)*
Small social network	0.71 (0.50-1.01)
CMD	0.41 (0.29-0.58)***
Probable PTSD	0.37 (0.22-0.64)***
Alcohol misuse	0.58 (0.37-0.92)*

* $p < 0.05$

** $p < 0.01$

*** $p < 0.001$

Each outcome was less likely for those who took resettlement (again, with the exception of having a small social network which had a borderline association falling short of significance). The unadjusted pairwise model (Table 13-1) was repeated for those entitled to resettlement, to ensure that findings in the unadjusted model held among those with entitlement to resettlement (Table 13-4).

Table 13-4 Associations between outcomes among those entitled to resettlement (unadjusted)

<i>A↓</i>	<i>B→</i>	<i>Not employed</i>	<i>Temporary housing</i>		<i>Legal difficulty</i>		<i>Small social network</i>		<i>CMD</i>		<i>Probable PTSD</i>		<i>Alcohol misuse</i>	
		% of B in A	% B in A	OR (95% CI)	% B in A	OR (95% CI)	% B in A	OR (95% CI)	% B in A	OR (95% CI)	% B in A	OR (95% CI)	% B in A	OR (95% CI)
Not employed			38.6	4.21 (2.56-6.92)***	29.7	2.64 (1.43-4.86)**	13.6	0.90 (0.64-1.26)	28.1	3.16 (2.31-4.34)***	33.2	3.28 (2.08-5.18)***	19.1	1.52 (1.00-2.32)
Temporary housing	16.7				17.0	3.28 (1.46-7.35)**	5.1	0.77 (0.43-1.39)	11.1	2.37 (1.44-3.89)**	18.1	3.87 (2.08-7.18)***	13.8	2.98 (1.70-5.22)***
Legal difficulty	8.6	11.3					3.2	0.70 (0.35-1.40)	10.1	4.26 (2.41-7.54)***	19.8	8.11 (4.34-15.15)***	17.1	8.83 (4.94-15.75)***
Small social network	24.6	22.0			20.3				46.5	3.27 (2.49-4.28)***	52.8	3.46 (2.27-5.27)***	28.6	1.13 (-.79-1.62)
CMD	40.5	37.1			51.1		37.2				85.8	31.44 (17.66-55.99)***	42.7	3.43 (2.44-4.83)***
Probable PTSD	16.3	20.5			33.9		14.3		29.1				25.5	7.43 (4.74-11.63)***
Alcohol misuse	17.0	28.3			52.1		13.8		25.9		45.7			

* p < 0.05 ** p < 0.01 *** p < 0.001

Those associations previously found mostly remained significant. Consequently, the adjusted model was reproduced for those with entitlement, additionally adjusted for resettlement (Table 13-5).

Table 13-5 Relationships between outcomes (adjusted, including adjustment for taking resettlement)¹¹⁰

<i>Exposure</i> →	Not employed		Temporary housing		Legal difficulty		Small social network		CMD		Probable PTSD		Alcohol misuse	
<i>Outcome</i> ↓	OR resettl. (95% CI)	OR (95% CI)	OR resettl. (95% CI)	OR (95% CI)	OR resettl. (95% CI)	OR (95% CI)	OR resettl. (95% CI)	OR (95% CI)	OR resettl. (95% CI)	OR (95% CI)	OR resettl. (95% CI)	OR (95% CI)	OR resettl. (95% CI)	OR (95% CI)
Not employed	-	-	0.53 (0.32 - 0.99)*	3.95 (2.00 - 7.81)***	0.54 (0.34 - 0.87)*	2.06 (0.73 - 5.81)	-	-	0.56 (0.37- 0.85)**	2.28 (1.60 - 3.25)***	0.57 (0.36- 0.92)*	1.46 (0.75- 2.83)	0.55 (0.33 - 0.91)*	1.20 (0.66 - 2.17)
Temporary housing	0.71 (0.32 - 1.55)	4.07 (2.17 - 7.66)***	-	-	0.66 (0.31 - 1.42)	1.89 (0.56 - 6.38)	-	-	0.68 (0.37- 1.27)	1.91 (1.12 - 3.25)*	0.67 (0.33- 1.36)	2.36 (1.09- 5.12)*	0.55 (0.24 - 1.24)	1.64 (0.81 - 3.33)
Legal difficulty	0.66 (0.28 - 1.54)	2.23 (0.89 - 5.61)	0.71 (0.27 - 1.90)	1.50 (0.42 - 5.33)	-	-	-	-	0.73 (0.33- 1.62)	2.55 (1.26 - 5.18)**	0.66 (0.26- 1.64)	3.35 (1.29 - 8.67)*	0.81 (0.25 - 2.55)	3.85 (1.58 - 9.39)**
Small social network	-	-	-	-	-	-	-	-	0.89 (0.60- 1.31)	3.16 (2.35 - 4.24)***	0.78 (0.53- 1.14)	3.38 (2.06 - 5.55)***	-	-
CMD	0.55 (0.37 - 0.81)**	2.27 (1.59 - 3.24)***	0.52 (0.35 - 0.76)**	1.90 (1.09 - 3.30)*	0.51 (0.35 - 0.76)**	2.34 (1.16 - 4.73)*	0.45 (0.31 - 0.66)***	3.16 (2.36 - 4.24)***	-	-	0.52 (0.35- 0.79)**	20.34 (10.80- 38.28)***	0.54 (0.36 - 0.80)**	2.56 (1.72 - 3.83)***
Probable PTSD	0.69 (0.37- 1.27)	1.39 (0.72 - 2.69)	0.71 (0.37- 1.36)	2.19 (0.96- 4.97)	0.67 (0.35- 1.28)	3.48 (1.40- 8.66)**	0.49 (0.26- 0.90)*	3.51 (2.13- 5.78)***	0.90 (0.47- 1.72)	20.69 (11.01- 38.90)***	-	-	0.76 (0.37 - 1.53)	5.02 (2.69- 9.38)***
Alcohol misuse	1.09 (0.65 - 1.81)	1.24 (0.72 - 2.12)	1.10 (0.65 - 1.85)	1.82 (0.95 - 3.47)	1.01 (0.64 - 1.59)	4.98 (2.61 - 9.49)***	-	-	1.04 (0.63- 1.70)	2.61 (1.76 - 3.87)***	0.86 (0.50- 1.50)	5.10 (2.81- 9.25)***	-	-

* p < 0.05 ** p < 0.01 *** p < 0.001

¹¹⁰ Adjusted pairwise associations are presented with outcomes on vertical axis and exposure variables on the horizontal axis. For each pairwise association, the OR of the association between resettlement and the outcome is also presented. Only those entitled to resettlement were included.

Resettlement is associated with higher employment in all pairwise models which include employment; it is also associated with lower CMD. The only difference from the model without resettlement (Figure 13-1) was that legal difficulty was no longer associated with not being employed (though this association had already been rendered non-significant after adjustment for CMD; see above).

From this a final inter-outcome association diagram can be constructed, showing those outcomes which are associated with each other after adjustment, and how those outcomes are associated with resettlement after adjustment (Figure 13-2).

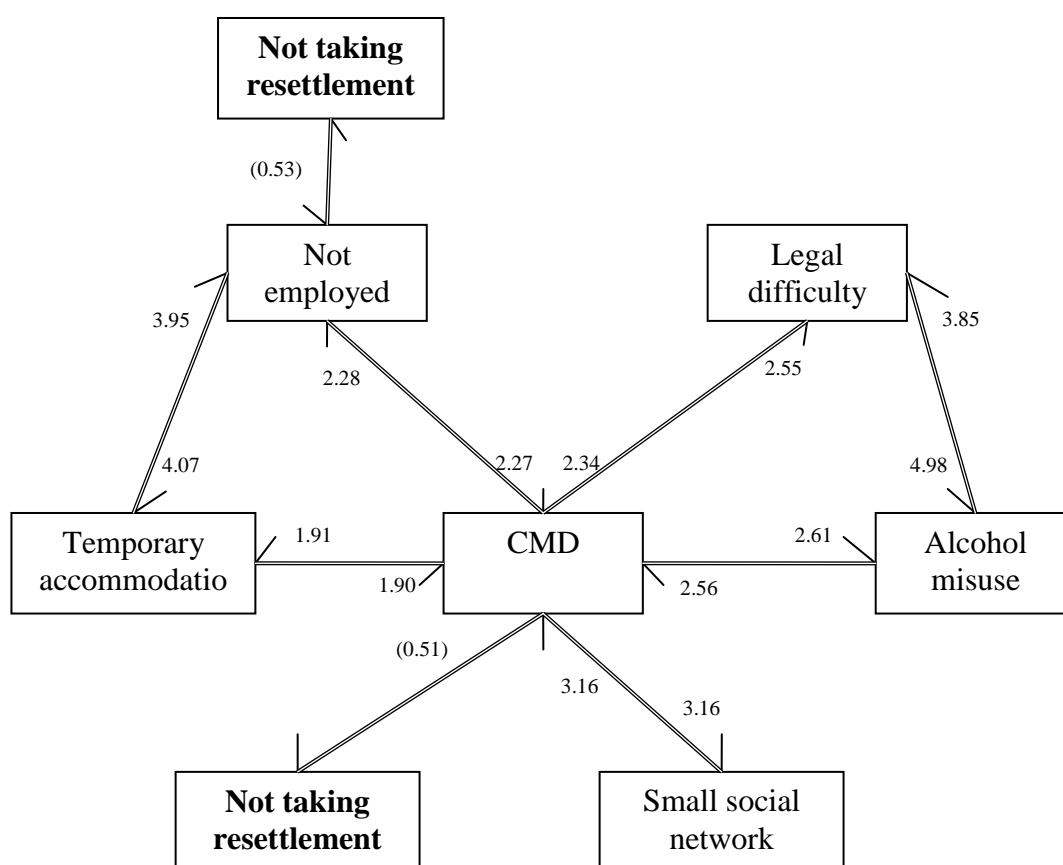


Figure 13-2 Relationships between outcomes (after adjustment including resettlement)¹¹¹

¹¹¹ Numbers by arrow heads indicate odds ratios of associations (arrow head at outcome variable, arrow base to exposure variable). Odds ratios for PTSD not shown for clarity (see Table 13-5 for relevant odds ratios); but associations between PTSD and other outcomes are as with CMD except that PTSD not associated with unemployment in this model, and while having PTSD is a risk factor for being in temporary housing, the reverse is not true. PTSD is not associated with resettlement. Odds ratios shown in brackets refer to association between resettlement and unemployment/CMD from the adjusted models in Chapter 10 and Chapter 12, and are not adjusted for other outcomes.

13.5 Combined outcome model

I constructed a single variable by scoring each respondent cumulatively for each outcome domain considered: unemployment, temporary accommodation, legal difficulty, CMD, probable PTSD and alcohol misuse. Social network size was not included, as this variable show few associations with other factors. Those who were missing for any of these outcomes were excluded ($n = 52$). The distribution of scores is shown in Figure 13-3.

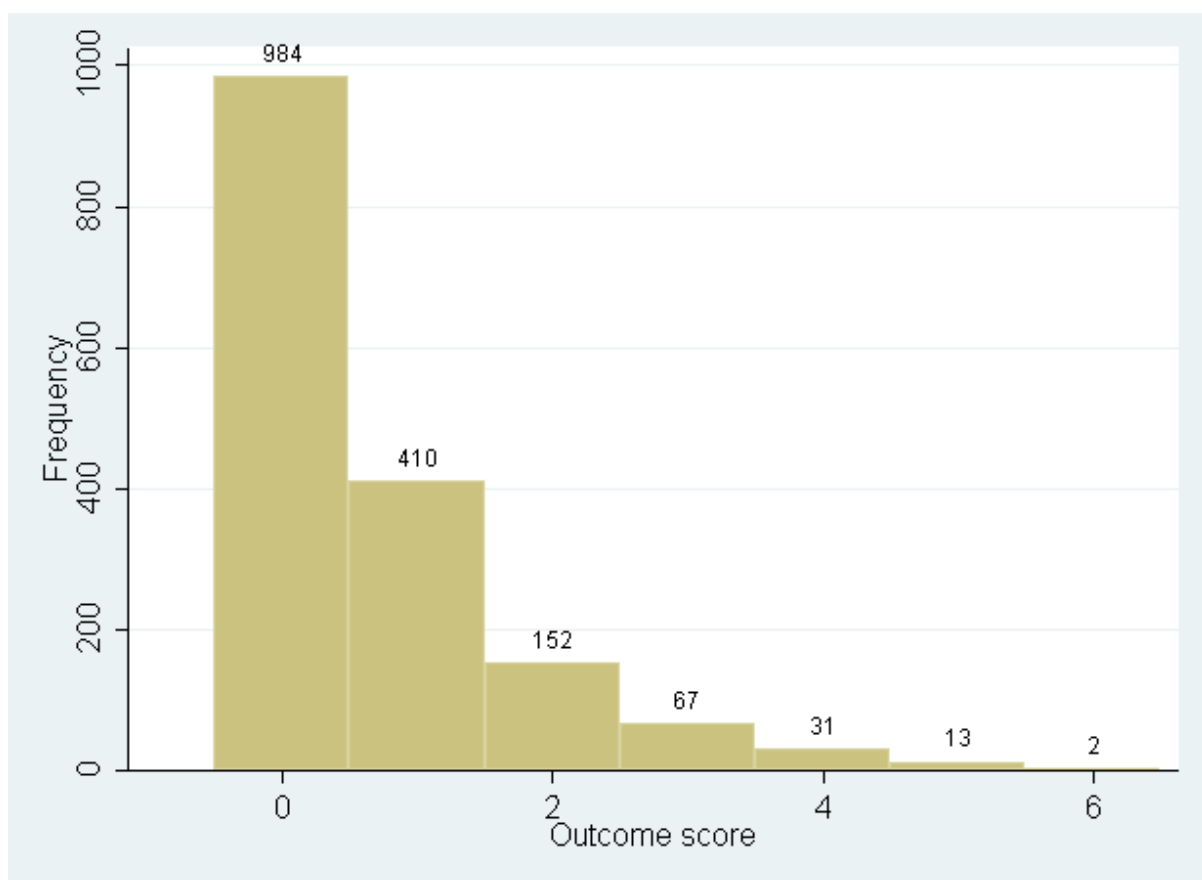


Figure 13-3 Histogram of risk scores

Analysis by Poisson regression

It was possible to analyse this combined outcome variable via Poisson regression, as the mean score (0.673) was similar to the variance (1.016) (Table 13-6).

Table 13-6 Poisson regression of combined outcome (expressed as incidence rate ratios)

<i>Category (n = 1,659)</i>	<i>Unadjusted IRR (95% CI)</i>	<i>Adjusted IRR¹¹² (95% CI)</i>	<i>Resettlement- adjusted IRR¹¹³</i>
<i>Pre-enlistment variables</i>			
Sex			
Male	1	1	1
Female	1.02 (0.83-1.26)	0.98 (0.77-1.26)	1.07 (0.80-1.43)
Pre-enlistment vulnerability (per count)	1.13 (1.11-1.16)***	1.10 (1.07-1.13)***	1.10 (1.07-1.13)***
<i>Military variables</i>			
Service			
Royal Navy	0.78 (0.62-0.98)*	0.95 (0.73-1.25)	0.91 (0.68-1.23)
Army/Royal Marines	1	1	1
RAF	0.76 (0.62-0.93)**	1.02 (0.80-1.30)	0.79 (0.61-1.02)
Rank			
Officer	0.79 (0.65-0.96)*	0.92 (0.73-1.17)	0.99 (0.77-1.26)
NCO	1	1	1
Other rank	1.86 (1.58-2.20)***	1.42 (1.15-1.75)**	1.57 (1.22-2.02)**
Length of service as a regular (per year)	0.96 (0.96-0.97)***	1.00 (0.99-1.01)	1.00 (0.99-1.01)
Role in parent unit			
Combat	1.64 (1.37-1.97)***	1.27 (1.03-1.57)*	1.08 (0.85-1.38)
Combat Support	1.00 (0.76-1.32)	1.02 (0.76-1.37)	0.98 (0.71-1.36)
Combat Services Support	1	1	1
Deployment on HERRICK/TELIC			
Yes	1	1	1
No	0.83 (0.71-0.97)*	0.94 (0.80-1.11)	0.94 (0.78-1.13)

¹¹² Adjusted for PEV, Service arm, rank, length of service, role, deployment, method of leaving, relationship status, time since leaving, and having children.

¹¹³ Adjusted for same factors as above and taking resettlement (where entitled).

<i>Category (n = 1,659)</i>	<i>Unadjusted IRR (95% CI)</i>	<i>Adjusted IRR (95% CI)</i>	<i>Resettlement- adjusted IRR</i>
Method of leaving			
Planned	1	1	1
Unplanned	2.67 (2.23-3.20)***	2.17 (1.80-2.61)***	2.08 (1.66-2.60)***
<i>Post-service/current variables</i>			
Relationship status			
Single	2.04 (1.74-2.39)***	1.83 (1.53-2.19)***	1.76 (1.42-2.18)***
Long-term relationship	1	1	1
Has children			
Yes	1	1	1
No	1.22 (1.04-1.44)*	0.98 (0.83-1.16)	1.03 (0.85-1.25)
Time after leaving (per year)	0.88 (0.84-0.93)***	0.91 (0.86-0.96)***	0.88 (0.82-0.94)***
Education¹¹⁴			
O-levels-	1.35 (1.14-1.61)**	1.06 (0.87-1.28)	0.96 (0.77-1.20)
A-levels+	1	1	1
<i>Resettlement</i>			
Entitlement to resettlement			
Yes	0.60 (0.50-0.73)***	1.04 (0.83-1.31)	-
No	1	1	-
Taking resettlement (for those with entitlement)			
Yes	0.52 (0.42-0.65)***	0.74 (0.59-0.93)*	-
No	1	1	-

* p < 0.05

** p < 0.01

*** p < 0.001

¹¹⁴ Excludes officers due to co-linearity with higher educational attainment.

Those with higher pre-enlistment vulnerability were more likely to suffer poor outcomes, though the effect was not strong. Other ranks were also more likely to have worse outcomes, as were unplanned leavers and those who were single. Negative outcomes receded with greater time after leaving. Taking resettlement was associated with having fewer negative outcomes.

13.6 Unsuccessful transition

Another method of considering transition and resettlement is to investigate whether an individual has made an “unsuccessful” transition, as far as can be determined with the data available. One part of this is to determine whether certain factors have worsened between service and civilian life; thus, only those in service in phase 1 were considered in this investigation¹¹⁵. A variable for “unsuccessful transition” was generated for those in this population, which was coded 1 if any of the following were true for the individual:

- Not a CMD case at phase 1, but a case by phase 2
- Not a probable PTSD case at phase 1, but a case by phase 2
- Not an alcohol misuse case at phase 1, but a case by phase 2
- Experienced trouble with the law
- Not employed, in education, or retired
- In temporary accommodation

Those who were missing for any of these outcomes were excluded (n = 46). Odds ratios for associations with socio-demographic and military factors are shown in Table 13-7.

¹¹⁵ One important limitation is that I do not have sufficient data to determine whether problems occurred after phase 1 sampling but before leaving.

Table 13-7 Associations between unsuccessful transition and socio-demographic and military variables

<i>Category</i>	<i>No. (%)</i> ¹¹⁶	<i>Unadjusted OR (95% CI)</i>	<i>Adjusted OR</i> ¹¹⁷ <i>(95% CI)</i>	<i>Resettlement- adjusted OR (95% CI)</i> ¹¹⁸
Total	975 (30.7)			
Pre-enlistment variables				
Sex				
Male	888 (29.6)	1	1	1
Female	87 (42.2)	1.73 (1.10-2.73)*	1.94 (1.01-3.71)*	1.52 (0.72-3.22)
Pre-enlistment vulnerability (per count)		1.14 (1.08-1.19)***	1.13 (1.06-1.20)***	1.12 (1.04-1.20)**
Military variables				
Service				
Royal Navy	135 (24.2)	0.61 (0.40-0.94)*	0.65 (0.35-1.24)	0.67 (0.34-1.32)
Army/Royal Marines	609 (34.2)	1	1	1
RAF	231 (24.7)	0.63 (0.44-0.89)**	0.91 (0.57-1.45)	0.80 (0.48-1.32)
Rank				
Officer	204 (24.1)	0.76 (0.53-1.10)	0.71 (0.43-1.20)	0.69 (0.41-1.18)
NCO	641 (29.4)	1	1	1
Other rank	130 (43.1)	1.82 (1.23-2.69)**	1.39 (0.80-2.41)	1.32 (0.67-2.59)
Length of service (per year)		0.98 (0.96-0.99)**	1.01 (0.99-1.04)	1.01 (0.99-1.04)
Role in parent unit				
Combat	176 (40.8)	1.86 (1.29-2.67)**	1.57 (1.00-2.48)	1.32 (0.81-2.16)
Combat Support	99 (25.9)	0.92 (0.56-1.51)	0.90 (0.51-1.59)	0.85 (0.46-1.55)
Combat Services Support	535 (27.2)	1	1	1
Deployment on HERRICK/TELIC				
Yes	574 (33.5)	1	1	1
No	401 (26.3)	0.71 (0.53-0.94)*	0.79 (0.54-1.16)	0.82 (0.55-1.24)

¹¹⁶ Response weighted.

¹¹⁷ Adjusted for sex, PEV, Service arm, rank, length of service, role, deployment, method of leaving, relationship status, having children, and time since leaving.

¹¹⁸ Adjusted for same factors as above and taking resettlement (for those who are entitled).

<i>Category</i>	<i>No. (%)</i>	<i>Unadjusted OR (95% CI)</i>	<i>Adjusted OR (95% CI)</i>	<i>Resettlement- adjusted OR (95% CI)</i>
Method of leaving				
Planned	849 (28.2)	1	1	1
Unplanned	93 (54.4)	3.04 (1.96-4.71)***	3.12 (1.88-5.18)***	2.67 (1.55-4.60)***
Post-service/current variables				
Relationship status				
Single	180 (47.6)	2.51 (1.79-3.52)***	2.12 (1.37-3.27)**	2.08 (1.30-3.33)**
Long-term relationship	795 (26.6)	1	1	1
Has children				
Yes	502 (28.6)	0.75 (0.56-1.00)*	0.77 (0.54-1.12)	0.76 (0.51-1.14)
No	417 (34.9)	1	1	1
Time after leaving (per year)		0.80 (0.70-0.91)**	0.78 (0.64-0.94)*	0.74 (0.60-0.91)**
Education¹¹⁹				
O-levels-	373 (35.7)	1.46 (1.06-2.01)*	1.14 (0.75-1.72)	1.02 (0.65-1.59)
A-levels+	354 (27.6)	1	1	1
Resettlement				
Entitlement to resettlement				
Yes	915 (30.2)	1	1	-
No	60 (37.1)	1.36 (0.79-2.36)	0.98 (0.45-2.11)	-
Taking resettlement (for those with entitlement)				
Yes	765 (26.4)	1	1	-
No	97 (48.8)	2.65 (1.72-4.10)***	2.13 (1.25-3.62)**	-

* p < 0.05 ** p < 0.01 *** p < 0.001

¹¹⁹ Excludes officers due to co-linearity with higher educational attainment.

Unsuccessful transition was associated with higher pre-enlistment vulnerability, unplanned leaving, being single, less time after leaving, and not taking resettlement.

13.7 Relationships between geographic area and transition outcomes

It is possible that individual outcomes are related to the circumstances of one's local area; i.e. local deprivation could be driving personal difficulties. In order to test this, outcomes were tested with relevant deprivation indices. Local employment deprivation was tested for association with employment, and also with those outcomes which have been found to be associated with employment (i.e. temporary accommodation and mental health). Similarly, local health deprivation has been tested for association with outcomes associated with mental health (i.e. all outcomes in this chapter, excluding social network size), and local crime examined for association with personal trouble with the law and associated outcomes (i.e. alcohol misuse and mental health). Barriers to services have been tested for any effects on mental health-related outcomes. To facilitate interpretation, deprivation indices were recoded into quintiles (i.e. the lowest quintile contained the 20% with the lowest deprivation index, and so on; thus a higher quintile indicates a better local situation). Results are shown in Table 13-8.

Table 13-8 Associations between deprivation indices and socio-economic and welfare outcomes.

<i>Deprivation indicator</i>	<i>Outcome</i>	<i>Unadjusted OR</i>	<i>Adjusted OR¹²⁰</i>	<i>Adjusted OR (including resettlement)</i>
Employment	<i>Employment (males)</i>	1.16 (1.02-1.32)*	1.25 (1.06-1.48)**	1.26 (1.03-1.54)*
	<i>Employment (females)</i>	0.96 (0.73-1.26)	0.84 (0.59-1.21)	0.79 (0.48-1.30)
	<i>Temporary accommodation</i>	0.85 (0.72-1.01)	1.02 (0.83-1.25)	0.95 (0.74-1.22)
	<i>CMD</i>	0.95 (0.74-1.22)	0.83 (0.74-0.93)**	0.85 (0.74-0.97)*
	<i>Probable PTSD</i>	0.67 (0.57-0.80)***	0.81 (0.66-0.99)*	0.83 (0.65-1.06)
Health	<i>Employment (males)</i>	1.15 (1.01-1.31)*	1.21 (1.03-1.43)*	1.22 (1.01-1.48)*
	<i>Employment (females)</i>	0.95 (0.72-1.26)	0.94 (0.66-1.35)	0.94 (0.57-1.53)
	<i>Temporary accommodation</i>	0.78 (0.66-0.93)**	0.91 (0.74-1.11)	0.78 (0.61-1.00)
	<i>Legal difficulty¹²¹</i>	0.62 (0.50-0.78)***	0.79 (0.60-1.05)	0.78 (0.55-1.12)
	<i>CMD</i>	0.79 (0.71-0.87)***	0.83 (0.74-0.93)**	0.85 (0.75-0.97)*
	<i>Probable PTSD</i>	0.64 (0.54-0.75)***	0.76 (0.62-0.93)**	0.81 (0.64-1.03)
	<i>Alcohol misuse</i>	0.74 (0.65-0.84)***	0.92 (0.79-1.08)	0.95 (0.78-1.14)
	<i>Small social network</i>	0.91 (0.83-1.00)	0.93 (0.83-1.04)	0.91 (0.81-1.03)
Barriers to services	<i>CMD</i>	1.02 (0.98-1.07)	1.01 (0.96-1.06)	1.04 (0.98-1.10)
	<i>Probable PTSD</i>	1.02 (0.95-1.10)	0.97 (0.88-1.06)	0.97 (0.88-1.08)
	<i>Alcohol misuse</i>	1.03 (0.97-1.10)	0.99 (0.92-1.07)	0.97 (0.87-1.06)
Crime	<i>Legal difficulty¹²²</i>	0.74 (0.60-0.91)**	0.88 (0.68-1.16)	0.85 (0.60-1.21)
	<i>CMD</i>	0.89 (0.80-0.98)*	0.93 (0.83-1.03)	0.91 (0.80-1.03)
	<i>Probable PTSD</i>	0.85 (0.72-1.00)*	0.99 (0.82-1.20)	1.07 (0.85-1.34)
	<i>Alcohol misuse</i>	0.80 (0.70-0.92)**	0.94 (0.79-1.12)	0.96 (0.78-1.17)

* p < 0.05 ** p < 0.01 *** p < 0.001

¹²⁰ Adjusted for same factors previously found to be associated with that outcome in the relevant main analysis.

¹²¹ Excludes females and commissioned officers.

¹²² Excludes females and commissioned officers.

Higher local employment was associated with being employed (at least for males). Higher local employment was associated with lower CMD. Local health was also associated with employment of the respondent (for males) and CMD. Local crime level was not associated with individual outcomes after adjustment.

It is also possible that urban or rural settlement has an effect on the outcomes considered in this chapter. Unadjusted and adjusted models of the effect of settling in a rural area on each outcome are shown in Table 13-9.

Table 13-9 Associations between outcomes and living in a rural area

<i>Outcome</i>	<i>Unadjusted OR (95% CI)</i>	<i>Adjusted OR¹²³ (95% CI)</i>	<i>Adjusted OR (including resettlement)</i>
<i>Employment (males)</i>	0.78 (0.54-1.11)	0.78 (0.52-1.19)	0.60 (0.37-0.97)*
<i>Employment (females)</i>	0.86 (0.45-1.64)	0.71 (0.31-1.62)	1.88 (0.47-7.42)
<i>Temporary accommodation</i>	0.71 (0.41-1.23)	0.98 (0.49-1.98)	0.79 (0.36-1.73)
<i>Legal difficulty¹²⁴</i>	0.67 (0.36-1.24)	1.08 (0.47-2.49)	0.84 (0.27-2.60)
<i>CMD</i>	1.08 (0.82-1.43)	1.17 (0.86-1.58)	1.26 (0.89-1.78)
<i>Probable PTSD</i>	1.07 (0.68-1.70)	1.81 (1.02-3.19)*	2.66 (1.38-5.10)**
<i>Alcohol misuse</i>	0.81 (0.56-1.16)	1.40 (0.88-2.23)	1.21 (0.72-2.03)
<i>Small social network</i>	0.99 (0.76-1.29)	0.95 (0.71-1.28)	0.84 (0.61-1.16)

* p < 0.05

** p < 0.01

After adjustment for factors including resettlement, those in rural areas were less likely to be employed. A stronger relationship was found between probable PTSD and rural living, however.

¹²³ Adjusted for same factors used for that outcome in the relevant main analysis.

¹²⁴ Excludes females and commissioned officers.

13.8 Summary

The negative post-Service outcomes investigated in this thesis are interconnected. Mental health in particular is associated with every other outcome; additionally, alcohol misuse is associated with encountering legal difficulty, and unemployment is associated with being in temporary accommodation. Having a small social network was only associated with poor mental health. Resettlement was involved in transition through two routes: those who take resettlement are more likely to be employed and also less likely to suffer poor mental health.

Overall post-transition difficulty is associated with pre-enlistment vulnerability, leaving in an unplanned fashion, being single, and not taking resettlement. Outcomes improve over time after leaving. Geographic location rarely makes an impact once individual factors are taken into consideration, though better local health is associated with employment and mental health.

Chapter 14 Discussion

My thesis has examined the experiences of former military personnel in a variety of mental health and socio-economic dimensions of transition, investigated how these outcomes are interrelated, and determined the effect of the MOD-mandated resettlement process. This chapter discusses my findings in terms of the socio-demographic makeup of the ex-Service population, their methods and motivations of leaving, their re-integration into the labour market, qualities of the areas and accommodations in which they settle after leaving, and their post-Service social integration and mental welfare. I then discuss the overall model, compare my findings with original hypotheses, and consider strengths, weaknesses and implications of my thesis.

14.1 Who are the transitioning population?

The population transitioning from military to civilian life reflects the makeup of the Armed Forces in general (see Chapter 6). Both veterans and in-Service personnel are predominantly male. A gender imbalance in the military is inevitable under current policy, as not all positions in the Services are open to women; almost all roles may be filled by women in the RAF, but only around 70% for the Army and Royal Navy (NATO, 2009). Overall, women make up around 10% of the Armed Forces (NATO, 2009; DASA, 2009). This is partly explained by the fact that women are excluded from “ground close combat roles”, defined as:

“Roles that are primarily intended and designed with the purpose of requiring individuals on the ground to close with and kill the enemy” (Ministry of Defence, 2010b).

Different rank groups show different career arcs and roles. Non-commissioned officers (who make up the majority of the Service leavers in the sample in this thesis) are most likely to be in combat service support roles – these include such “back-office” activities

as intelligence, logistics, administration and training, and hence are performed by those with more training and experience. NCOs mostly leave around the 22-year point; this is the time at which their service will normally be ended (unless they become commissioned officers via Late Entry), and they will acquire a full pension.

There is a different approach to military careers among officers, who do not tend to leave at planned career points, but for other reasons. The distribution of lengths of service for officers is relatively flat; they are as likely to leave at any time. Other ranks (i.e. privates and equivalent ranks) are mostly likely to have combat roles, and tend to have short terms of service (around 4-years); some leave at this point, but others are promoted to be NCOs and thus there are few long-serving private-equivalent ranks.

All the Services have the majority of their personnel involved in service support roles, and the Army (who make up the majority of the sample in this thesis) was the only Service with a substantial proportion of combat personnel. This latter observation may explain why ex-Army personnel are more likely to have deployed to HERRICK/TELIC than the other Services. Ex-Naval personnel are least likely to have deployed, reflecting the nature of recent operations (which have centred on actions by ground forces with air support). The large peak of Army personnel leaving around the 4-year mark (i.e. at the end of the initial term of service) suggests that the Army contains a population of low-ranking front-line troops, who then leave before acquiring higher rank. Other Services peak around 22 years of service, i.e. the point at which the NCOs which make up the bulk of the sample are leaving.

Differences in the roles performed by different ranks may be a reflection of their educational attainment. This sample is educated to a similar level as the general population; 51.9% of the UK population had at least obtained A-levels in 2008 (Office for National Statistics, 2008b), compared with 54.4% of the sample in this thesis. Over

90% of officers have A-levels or higher, which would be expected given the educational requirements to join as an officer (except for NCOs entering via Late Entry) (Ministry of Defence, 2013a). More NCOs have a higher educational attainment than other ranks, which supports the assumption that promotion from private-equivalent rank is often linked to better training and the capability for taking on support roles.

Private-equivalent ranks are from less-privileged socio-economic backgrounds; they have higher PEV scores and lower educational attainment. This could be the consequence of recruitment efforts preferentially targeting such groups, or because those with lower educational attainment are more likely to view the career of an enlisted man/woman as desirable (Kleykamp, 2006; Elder et al., 2010).

Furthermore, ex-Army personnel also tend to be drawn from lower socio-economic groups. They have higher pre-enlistment vulnerability scores and lower educational attainment than the other Services. This difference is not explained by a difference in rank, as there is no significant difference in distribution of ranks between Services.

The majority of personnel in this thesis are in long-term relationships. Lower ranks are less likely to be in a long-term relationship than higher ranks, but this may simply be because lower ranks are generally younger (and hence have had less opportunity to acquire a partner). It may also be because lower rank and younger age are factors associated with negative relationship change, i.e. those in these groups who do acquire significant others are more likely to lose them (Rowe et al., 2013). Around half the ex-Service sample has children under 18 years of age at the time of questionnaire completion; other ranks are less likely to have children, again possibly due to their youth and more transitory relationships. Perhaps surprisingly, fewer commissioned officers have children than non-commissioned officers; this may not be a difference in actual rates of having children, but because there are officers with very long periods of

service (to 44 years in this sample) who may have children who are over 18 years of age (and hence are not included in the questionnaire).

14.2 How and why do they leave?

This thesis found that 9 out of 10 personnel leave the military in a planned way, and are most likely to be motivated to leave due to work-family conflict (WFC). Choosing to leave due to WFC was motivated by the responsibilities of having a family of one's own; it was associated with being in a long-term relationship and having children.

Unplanned leavers were less likely to have deployed to recent operations in Iraq/Afghanistan. The latter finding may be a manifestation of the "healthy warrior effect" (Haley, 1998), whereby only those who are fit and well (and hence likely to do better by other measures) are deployed.

Those with lower educational attainment provide something of a paradox. On the one hand, they are more likely to undergo unplanned leaving. On the other, those with lower educational attainment who do choose to leave are less likely to anticipate better civilian prospects or feel job dissatisfaction. In short, the lower educational attainment group seem to view military careers more positively than those who are more educated, but are less able to pursue one. It is possible that the skills acquired in formal education make higher educational achievers more attractive to the military from a retention perspective. Alternatively those who are more likely to persist in education are also more likely to gain promotions that would lead to being retained by the Services (supported by the above observation that NCOs tend to be in more-qualified combat services support roles). Both these explanations may apply.

Pregnancy accounted for the apparent higher rates of unplanned leaving among females. While females, in general, did not report choosing to leave due to WFC more than males, those females with children tend to leave in an unplanned way more than males

with children. Choosing to leave among females does not seem to be driven by anticipation of better civilian employment, implying that their leaving often has more to do with the demands of maternity and less to do with career preferences.

While long-term servers (and their families) have adjusted more fully to the demands of military life, military careers appear to become less attractive over time (possibly due to the “up-or-out” system). This is evidenced by the findings that those serving longer are less likely to leave in an unplanned way, and less likely to choose to leave due to WIF, but more likely to leave due to job dissatisfaction.

Despite generally serving longer, officers are not more likely to leave due to job dissatisfaction; rather, they are more likely to leave in anticipation of better civilian prospects. This suggests it may be that the “up-or-out” system is less of a motivating factor for leaving among officers than it is for other rank groups; rather, they feel they would do better outside the military. This broadly supports the finding of the Army Premature Voluntary Leavers survey, which found leaving was more motivated by leaving for better civilian prospects or due to impact of Army lifestyle on personal/domestic life than due to poor personal morale (Richardson, 2003).

The requirements of Naval service were found to be less compatible with family life; serving in the Royal Navy is associated with leaving due to WIF. While it is possible to speculate on the reasons for this (e.g. that lengthy and frequent deployments on board ships cause more serious issues in Naval families), the data available provide no evidence why this is observed. The RAF and Royal Navy are generally regarded as being the more “technical” services, and hence their members might be expected to anticipate better civilian prospects due to skills acquired in Service; this effect is not seen here.

To attempt to address the issues faced by families as a consequence of military careers, the MOD launched a consultation (from June to October 2013) on a proposed “New Employment Model”. This New Employment Model seeks to modernise the terms and conditions of Service, particularly taking account of the impact of Service life on families and the careers of partners (Ministry of Defence, 2013b). It remains to be seen what effect this modernisation will ultimately have on retention, especially for those with families.

14.3 Access to and utilisation of resettlement provision

The requirements for entitlement to resettlement are low (i.e. serve for 6 or more years and leave without a dishonourable discharge, or have a medical discharge). Consequently, it is not surprising that most ex-Service personnel in this thesis (which is drawn from a cohort of whom the majority are NCOs, and hence would serve longer than this) are entitled to resettlement.

Most of those who are entitled to resettlement make use of the opportunity. Other (i.e. private-equivalent) ranks and single personnel were less likely to take resettlement, even when entitled; these are not groups who have high employment rates, and hence are groups who would be expected to benefit particularly from resettlement. However, these are also generally younger groups; they may be leaving with greater urgency (and hence overlooking the benefits of resettlement), or be more likely to be overlooked by local administrative procedures as resettlement begins at the regimental level.

Resettlement procedures are not catering well to certain at-risk groups, including unplanned leavers, and in particular those who are given medical discharges. Those who had left in an unplanned fashion were more likely to have errors or omissions in their resettlement responses, raising the concern that this group are poorly informed or organised regarding their resettlement. Over two-third of these unplanned leavers with

errors/omissions were medical dischargees (and over a third of all medical dischargees has missing or incorrect responses regarding resettlement). Concerns about medical dischargees accessing resettlement are echoed anecdotally by RAF resettlement officers in explaining missing official resettlement records.

It is difficult to draw conclusions regarding the motivations of those who deliberately choose not to take resettlement. Interference of day-to-day duties with resettlement activities is the most popular category endorsed, followed by ill health (of the respondent or a family member) – this latter observation adds further weight to the concerns regarding medical dischargees. However, the most popularly-endorsed category for not taking resettlement was “other” – this suggests that the motivations for missing resettlement largely lie outside the questionnaire as provided.

14.4 Returning to the labour market

Veterans are generally successful in re-entering the civilian labour market. The proportion employed increased rapidly after the point of leaving. 86.4% of male veterans were employed, and 71.4% of women, compared with 78.1% and 70.1% respectively in the working-age general population (Office for National Statistics, 2008a).

While female veterans generally pursue careers after service, they still tend to take on the domestic carer role once they have children. Childless men and women have similar employment levels, but females with children have much lower levels (while males with children actually have higher employment rates). In the general population, females with children tend to have lower employment than those without while they have a youngest child aged under 10 years of age, but employment rates increase to surpass those childless women once all children are in their teens (Office for National Statistics,

2009) – this effect is likely to be missed by this thesis, as most in the sample have left relatively recently and hence few have older children.¹²⁵

Those who leave in an unplanned way have difficulty entering the civilian labour market – they are less likely to be employed, and have longer periods of unemployment. These effects are independent of the effect of resettlement (which is unavailable to many unplanned leavers). These findings could indicate that such individuals have personality traits which are responsible for both their circumstances of leaving and for their difficulty in securing employment. However, as unplanned leavers do not suffer statistically significantly higher occupational transience (i.e. they do not have difficulty keeping a job), this hypothesis is not entirely supported by the evidence. Further evidence against this hypothesis is given by the finding that pre-enlistment vulnerability did not affect employment rates (though it was associated with changing jobs more often, suggesting that those with higher PEV do have difficulty staying in the same job). Instead, it could simply be that unplanned leavers have less time to make plans for a future career, and hence are “catching up” for some time after leaving. Furthermore, a large proportion (nearly two thirds) of the unplanned leavers received medical discharges; hence the observed difficulties in acquiring employment could, at least in part, be a consequence of ongoing medical problems. This effect may be exacerbated by poor local health provision, as settling in areas with higher levels of health-related deprivation is associated with individual unemployment.

The evidence regarding length of service did not support the existence of a “military retirement syndrome”, nor does longer service increase acquisition of applicable skills. However, there is some evidence that longer-serving (and hence older) personnel are

¹²⁵ There were only eight females in the sample with children over 10 years of age, and none had children aged over 15 years.

less agile in the labour market as they change job less often (though this could also indicate that older individuals are more settled).

Unemployment is not associated with deploying to a conflict zone. Deployment to HERRICK/TELIC resulted in individuals changing jobs more often, and having longer periods of unemployment, but this is not necessarily an indicator that deployment experiences inhibit employment; since TELIC and HERRICK are recent conflicts, it could simply be that going on deployment limits the amount of planning and preparation the individual can perform leading up to leaving service

Those in long-term relationships have better employment outcomes. Higher earning power among married men is a well-known phenomenon, and one explanatory factor is that individuals select partners on their employability (Nakosteen and Zimmer, 1987). However, this “selection hypothesis” only partly explains the earnings difference between married and single men (Korenman and Neumark, 1991). Another explanation is in the “specialisation hypothesis”, whereby living as a couple allows one member to take on more of the domestic activities, enhancing the productivity of the other partner (Chun and Lee, 2001; Bardasi and Taylor, 2005). There is also evidence that differences are due to attitudes towards pay changing with marital status, as married men view pay as more important and are less satisfied with current earnings (the “attitude hypothesis”) (Gorman, 2000; Liebig et al., 2009). Any or all of these hypotheses may apply to veterans just as they do to the general population. Singles may be less motivated to “settle down” and acquire permanent employment, explaining both their lower employment and higher rate of changing jobs.

Despite expectations, Service arm and role did not have any effect. Being in a combat role would be expected to give rise to fewer transferrable skills than other roles (and being in the Army, which has a higher proportion of combat personnel, would similarly

be expected to provide fewer transferrable skills). Meanwhile, being in a more administrative Combat Services Support role would be expected to give rise to more transferrable skills. However, no consistently significant effects on employment rates are found. This could imply that apparently transferrable skills learned in Service (or a lack of such) are not relevant to acquiring civilian careers. Alternatively, it could be that ex-Army personnel, and ex-combat personnel in particular, do not show differences from their equivalent peers because they have short terms of service; consequently their equivalent peers in other roles and Service arms have not yet acquired the transferrable skills that might affect their employability, and hence no effect is detectable.

Finally, resettlement does improve employment rates, as intended by its providers (and in agreement with the high levels of re-employment found for those who take resettlement according to MOD surveys (Career Transition Partnership, 2009)). This effect is independent of being entitled to resettlement, and hence is not merely a consequence of factors such as age and temperament, indicating that resettlement activities do indeed improve integration into the civilian labour market.

14.5 Where do transitioning ex-Service personnel settle?

Ex-Service personnel are more likely to live in rural areas than the general population (although, like the UK population in general, most ex-Service personnel live in urban areas). As older individuals are more likely to settle in rural areas in the general population (Barham and Begum, 2006), this observation may be a consequence of the fact that there are few young veterans; while the median age of the sample in this thesis (40.3 years, 95% CI 38.8-40.9) is similar to that of the UK population in 2008 (39.3 years) (Wright, 2010), all transitioning personnel have served at least some time in the Armed Forces, and hence there are fewer of the youngest individuals. The finding that officers (who generally serve longer and hence are older on leaving) were more likely to live in rural areas than lower ranks supports this hypothesis.






There are other explanations for the preference for rural living. It could arise from a shift towards availability of employment, as rural areas show higher employment and lower unemployment than urban areas (Barham and Begum, 2006); however, there is no reason to assume that this factor would affect veterans more than civilians. Another explanation is that veterans may settle in areas surrounding a military base where they served, or an area similar to that (and hence familiar), and that military bases tend to be in more rural areas. This effect has been observed in the US (Teachman, 2013). Evidence for this effect in the UK is found as those who served in the Navy, which is based largely in the port cities of Portsmouth and Plymouth, are the most likely to settle in urban areas, while ex-RAF personnel were most likely to settle in rural areas; the RAF mostly operate from airfields, which are by necessity in rural regions (Figure 14-1).

A preference for settling in rural areas may be a result of the traditional link between the countryside and the military (Woodward, 1998). It is also possible that the shift towards rural living is partly driven by lifestyle choice. Though most veterans will need to begin a new career after leaving the Services, they may nonetheless desire a “quieter life” in a rural area for their next stage of life (again, this may be more relevant to officers who have generally had more substantial Service careers). A shift towards higher quality of life is implied by the fact that rural veterans tend to settle in areas with less deprivation for all indices except access to services and housing; this exception is likely to be due to the fact that this index partly considers road distance to services (e.g. GP surgery, local primary school), and so will inevitably be worse for those in rural areas. This lack of access does not seem to result in worse mental health (as measured by CMD); however, rural living is associated with probable PTSD.



Figure 14-1 Military airfields of the United Kingdom, includes all RAF, Royal Navy, and Army Air Corp airfields. (Hunter, 2007)

Key:

	RAF		Ministry of Defence Tri-Service (training, testing etc.)
	Royal Navy (inc. Royal Marine)		US Air Force
	Army Air Corps		

Those who join the Services from poor socio-economic backgrounds were likely to return to more deprived areas after leaving. Those with higher PEV were, in general, living in more deprived areas, as were those of lower education. These relationships could explain the findings with regards to ex-Army personnel (who have lower educational attainment and higher PEV scores) and those from combat roles (who are largely from the Army). Unplanned leaving was associated with living in a more deprived area, which may be because unplanned leavers have many of the factors mentioned previously (higher PEV, shorter service etc.), but may also be because these individuals have less time to prepare for their transition. Higher ranks settle in better-off areas, but this may be a consequence of their socio-economic backgrounds.

Longer-serving veterans settled in less-deprived areas; they are, generally, older and of higher rank, which may explain this relationship. Similarly, those in long-term relationships are living in less-deprived areas, but they are also more likely to be older than single personnel, which may partly explain this finding. Another potential explanatory factor is that couples can share costs of living, and hence afford to live in better areas (Blow et al., 2009). By contrast, having children was associated with living in worse areas, despite the fact that those with children are more likely to be in a couple. This may be due to the cost of childcare reducing household wealth, and hence reducing capital available for rent or mortgage (Hirsch et al., 2012).

Considered overall, veterans settle in less-deprived areas than the general public. While there are exceptions, there is no indication that veterans are settling in deprived areas when they leave service; even for those groups settling in worse areas (e.g. those who are ex-Army, have lower educational attainment, higher PEV, etc.), deprivation indices rarely dip below the median of the general population.

Excluding those in temporary accommodation situations, Armed Forces personnel do not appear to have difficulty acquiring their own homes. Among the general population of the UK in the period 2008-2009¹²⁶, 68% of households were owner occupiers, and 32% were private or social renters (Department for Communities and Local Government, 2010). By comparison, in the sample of this thesis (excluding those in temporary accommodation), 73% owned their own homes, while 27% were living in rental accommodation. It is possible that the increase in home ownership compared with the general population is due to the fact that there are few of the youngest adults in the veteran sample (and greater length of service was associated with home ownership among veterans), though there are also few in the oldest category (40% are under 35). Geographical differences between veterans and civilians may be a contributory factor; home ownership is generally higher in rural areas, and as established above, ex-Service personnel have a preference for settling rurally.

It is harder to draw comparisons as regards those in temporary accommodation. These individuals are not permanent parts of households, and only a small proportion are using public services to obtain their temporary accommodation; hence they tend to be missed by housing surveys and census data. At the same time, these people are not sleeping rough, so are not picked up by surveys focused on these individuals. Consequently, it is difficult to determine whether the 7.7% in temporary accommodation represent a troubling proportion or not. However, it should be noted that the study sample are often young, have not been out of service long, and are mostly either living temporarily with family or friends (a familiar situation for those in their twenties and thirties) or still in Armed Forces accommodation at time of response.

¹²⁶ This period selected as being closest to the period of questionnaire completion.

One factor consistently associated with less permanent housing is pre-enlistment vulnerability; those scoring higher for this measure were less likely to be home owners and moved more often. This relationship between childhood adversity and economic difficulty in later life is well-established in the general population (Currie and Spatz Widom, 2010; Liu et al., 2013), and this finding suggests that military service does not mitigate such disadvantage. Suggestions of ongoing socio-economic disadvantage was supported by the fact that other ranks (who are generally from lower socio-economic strata) were less likely to be employed, even after adjustment for other factors. Nonetheless, other ranks were less likely to move home than NCOs, once their reduced access to home ownership was accounted for; thus, while PEV is associated with moving more often, lower ranks (many of whom who are recruited from lower socio-economic strata) migrate less.

Unplanned leaving, which is also linked with these underlying factors, is another factor associated with less home ownership and more moving, though these effects could be partly due to having less time to make arrangements when leaving service (as with re-entering the labour market). The existence of such a “loss of opportunity” effect is supported by the fact that those with less time after leaving are less likely to own their homes.

Family circumstances have an effect on housing; those with children moved less often, while single veterans were more mobile, and less likely to be home-owners. The effects of being single could be due to preference, as single personnel are less tied to dependents and hence more able to pursue jobs and interests; however, it could also be a consequence of lack of capital, due to lack of shared income as well as all the factors explaining the reduced income of singles described above in “Returning to the Labour Market”.

14.6 Re-integration into and exclusion from society

Lower socio-economic origins are a factor in encountering legal difficulty after leaving service; this thesis found associations with pre-enlistment vulnerability, service with the Army/Royal Marines, and unplanned leaving. Being in a long-term relationship was associated with avoiding legal difficulty – this may be due to such individuals being more “settled”. It could be due to those in couples having better access to capital as well as higher earnings as discussed above, as crimes are often linked to wage inequality and unemployment, at least for theft-related crimes (Witt et al., 1998; Wu and Wu, 2011), but may also be a manifestation of the “selection hypothesis” as described above. Adjustment for this effect of age on legal difficulty (by adjusting for length of service) removed the apparent link between living in temporary accommodation and legal difficulty, suggesting that both issues are explained by a common factor – youth.

Socio-economic status was less of a factor in social integration, however; while PEV was associated with lower levels in both dimensions of social integration, Service arm and rank had no effect, and those with a combat role actually had larger social networks. Unplanned leavers did not report a reduced social network size either, and although they engaged less with social activities this could be a consequence of having less time to take up such “civilian” activities leading up to Service exit. Social networks shrink with increasing age (as measured by length of service), and having children reduced social involvement (possibly due to the pressures on time and money introduced by dependent children).

14.7 Mental welfare in transition

Post-service mental health is partly driven by pre-service risk factors, but not military factors. Other factors associated with both CMD and probable PTSD were being single and unplanned leaving. The former effect is observed in the general population – long-term partners have a positive effect on mental health in general (Horwitz et al., 1996;

Richards et al., 1997), and such explanations as the “selection hypothesis” (as well as its corollary, that poor mental health leads to relationship breakdown) could also explain this observation. The effect of unplanned leaving could be the result of either poor mental health making it difficult to continue in the military career, or due to a negative effect on mental health arising from abrupt and involuntary departure (as seen in the general population (Turner et al., 1991)), or both.

The exceptional in-service factor which was important for post-service mental health was having a combat role. This was associated with probable PTSD, alcohol misuse and physical violence, as previous studies referred to in the literature have suggested (see 12.2.3.2).

Other ranks were more likely to misuse alcohol, which may be reflective of the culture of junior ranks as alcohol is used to facilitate unit cohesion (Jones and Fear, 2011):

“‘Boozing’... is viewed as something which men and, even more so, soldiers indulge in... Much social pressure was evident amongst privates for individuals to indulge in collective drinking, to be ‘one of the boys’” (Hockey, 1986)

Higher alcohol misuse among lower ranks is also seen in the serving cohort (Fear et al., 2007). Younger veterans (i.e. those with shorter service) were more likely to misuse alcohol, as would be expected given generally heavier alcohol consumption among the young. Both other ranks and younger veterans were more likely to commit acts of violent anger.

This thesis does not find evidence that veterans suffer worsening mental health after leaving Service. On the contrary, CMD rates dropped in the short term with increasing time after leaving. When considering CMD, probable PTSD or alcohol misuse, around half of those who have each of these disorders in service (i.e. in phase 1) no longer have such a disorder after leaving (i.e. at phase 2). New cases since phase 1 mean that,

overall, veterans are not significantly different from in-service personnel for any of these outcomes. These findings support previous findings that PTSD does not undergo a surge due to delayed-onset PTSD; indeed, since beginning this thesis, it was found that Iraq and Afghanistan personnel take an average of two years before they engage in help-seeking (van Hoorn et al., 2013), rather than the 14 years originally indicated by Combat Stress (probably because the Combat Stress calculation included veterans of all eras, not specifically those who deployed to Iraq and Afghanistan).

14.8 Relationships between outcome domains and the effect of resettlement

One of the principal findings after analysing the relationships between outcomes was the pervasive effect of mental health. Qualifying as a CMD case was associated with worse outcomes for all domains of transition examined, whether primarily related to economic transition (unemployment and temporary housing) or more related to anti-social activity (getting into trouble with the law, alcohol misuse). Probable PTSD was similarly related to most other poor outcomes, though most veterans with PTSD symptoms also qualify as CMD. The direction of causation is unclear, however – it is equally possible that suffering from unemployment, alcoholism etc. are factors driving poor mental health as that these outcomes are driven by CMD. The inconsistency of mental health between in-Service and post-Service is evidence of the mutability of mental welfare; consequently it is entirely possible that both effects are occurring among transitioning veterans. The association between poor mental health and difficulty in transitioning is underlined by a recent study which linked the KCMHR Iraq cohort data with information from the Ministry of Justice, and found offending to be associated with alcohol misuse and probable PTSD (MacManus et al., 2013).

Similarly, the association between unemployment and temporary living situation could be an effect in either, or both, directions. It is possible that employment provides the

capital to rent or buy a house, but also plausible that permanent housing facilitates getting a job.

The “economic” (i.e. employment and housing) and “anti-social behaviour” (i.e. legal difficulty and alcohol misuse) outcome pairs do not seem to interact with one another. After adjustment, there are no significant relationships between the employment/housing outcome pair and the alcohol misuse/legal difficulty outcome pair (see Figure 13-2). Both pairs are associated with mental health; the associations between these outcome pairs found in unadjusted analysis are not significant after adjustment for variables, crucially including the effect of mental health. The importance of maintaining health is underlined by the finding that local health deprivation is linked to both CMD and unemployment.

One of the more surprising findings was the lack of effect of social integration. As expected, having a wider social network was protective of poor mental health, but there were no other significant effects, even where they would be expected (for example, in employment, as having more friends would be expected to provide more employment opportunities).

Possibly the most surprising finding was with regard to resettlement. Resettlement provision is primarily intended to facilitate re-entry into the labour market, and it appears to be effective in this regard (as described above); given that resettlement usually occurs before employment (except for those who secured employment early in the leaving process), it can be said with confidence that resettlement is a factor driving higher employment. More surprisingly, resettlement also had a positive effect on mental health. Resettlement has no specific psychosocial component, and is not primarily intended to improve mental health. Direction of causation is not certain – it is possible

that those suffering CMD are less likely to take part in resettlement, just as the resettlement process itself may improve mental health¹²⁷.

From analysis of overall markers of successful/unsuccessful transition, childhood adversity is a driving factor in poor outcomes post-Service. Successful transition improves with time after leaving, indicating that some of the problems associated with transition are merely logistical and will disappear as opportunities (e.g. job offers) arise over time. Being single was associated with unsuccessful transition; this could be because of a lack of partner support, inability to share capital for housing etc., but may also be a manifestation of the “selection hypothesis” (see 14.4 above).

14.9 Comparison to original hypotheses

As intended by the providers, resettlement has a positive effect on employment. However, the expected association between post-service unemployment and shorter service was not found; any effect of length of service is explained by other factors, particularly relationship status, pre-enlistment vulnerability, and resettlement.

Most personnel are in long term housing situations (i.e. they own or rent their own homes). Longer-serving, older personnel (i.e. those who have more access, and are more likely, to undertake resettlement) are less likely to be in this temporary-accommodation group. Home ownership is higher than in the general population. Thus veterans’ accommodation outcomes are, indeed, good in the traditional sense (i.e. they tend to be in settled situations with a high rate of home ownership).

This thesis provides some evidence that social re-integration is problematic for certain vulnerable groups, particularly those with higher pre-enlistment vulnerability.

¹²⁷ Informal interviews I have conducted with veterans who have transitioned, which are not part of the data for this thesis, have indicated that career workshops have “opened locks in [their] mind” with regards to their future; such improvement of aspirations may improve mental health and mitigate the problems arising as those in-Service are discouraged from considering their civilian future as discussed by Jolly (Jolly 1996).

The effect of resettlement was equivocal; those who did not take resettlement undertook fewer social activities, but resettlement made no difference to social network size. Those with a small social network are more prone to poor mental health; however, this factor does not have any association with other outcomes, indicating that social re-integration may be less important than other domains with regard to overall veteran transition.

14.10 Strengths and weaknesses

This thesis relied on quantitative analysis, primarily by logistic regression. These methods produce clearly-defined and objective associations of which I can be confident to a measurable degree (as defined by p-values and confidence intervals). As well as providing known probabilities that observed effects are statistically significant, this approach provides effect sizes (and confidence intervals) for observed associations. The use of quantitative methods allows for the generation of adjusted models. By doing so, associations can be tested to see whether they still hold after other factors (particularly those predicted to be related to the outcome) are taken into account, or whether they are merely the result of some common effect. This approach allowed me to reduce those socio-demographic and military factors associated with poor transition to the small number of factors described in the conclusion below.

One particularly valuable consequence of this approach is the capability to produce an overall model. The model presented in this thesis utilises the adjustments found to be relevant by the statistical analyses in previous chapters to inform the construction of this model. Thus the manner in which outcome domains are inter-related was determined, taking into consideration these socio-demographic and military factors and hence common causes and effects.

Use of postal surveys is a cost-effective means to acquire a large number of responses for analysis. Responses are focused on clearly measurable outcomes (e.g. whether individuals are employed, the nature of the accommodation), rather than being based on more subjective outcomes (e.g. satisfaction with new employment).

Overall response rates were 56% for the second phase questionnaire (the primary source of data in this thesis) (Fear et al., 2010), giving confidence in these findings, and response-weighting permits allowances to be made for variations in response rates. Requisitioning and comparing resettlement records for selected ex-RAF personnel was a valuable exercise, both to give confidence in my data regarding entitlement and exploitation of resettlement, and to determine that vocational training data was not of acceptable quality.

As a consequence of the survey-based approach in this thesis, I was limited to responses requested by the questionnaire, which asks no questions regarding type of employment, income, job satisfaction, or how civilian employment compares to service. This restricts the degree to which the success of labour market transition can be judged at a personal level. There is no information on how long it took respondents to find their first job, which would have been a useful indicator of degree of difficulty in re-engaging with the labour market. It could also have been beneficial to know the reasons why personnel moved between accommodations (i.e. whether or not by choice); similarly, the lack of information on why personnel changed jobs limits conclusions that can be drawn from their occupational transience.

Although the data were response-weighted, there is still a risk that certain groups will be disproportionately excluded. Many questions are retrospective, and rely on recall of events and motivations that, in some cases, may have occurred several years in the past.

Some limitations regarding resettlement data have already been considered in Chapter 5. Resettlement responses were not compared with official records for the whole sample, and there were limitations regarding both vocational training and reasons for not engaging with resettlement that prevent a wider analysis of the role of resettlement.

While the questionnaire allows respondents to claim they are leaving for better civilian employment prospects, it does not specify why the individual believes those prospects to be better (e.g. due to better pay, or access to jobs more appropriate to personal interests). Furthermore, responses which have been treated as specific to WIF and FIW were not based on standard definitions of WIF or FIW, but interpreted as belonging to these domains.

The analytical approach used in this thesis frequently necessitated reduction of dependent and independent variables to a small number of groups (ideally binary). Doing so allowed for statistical analysis with a reasonable degree of power. However, this approach also risks obscuring differences between characteristics that are grouped together – for example “unplanned leaving” comprises $\frac{2}{3}$ medical dischargees (generally discharged through no fault of their own) and $\frac{1}{3}$ from other groups (whose discharge is likely to have been based, at least in part, on blameworthy behaviour).

Due to the risks of over-adjustment and Type 1 or 2 error, adjusted models did not adjust for every independent factor, and statistical interactions were not considered (except through stratification, e.g. with employment and sex). Additionally, quantitative methodology requires that some borderline relationships where $p > 0.05$ are treated as non-significant, which may cause some associations to be discounted (though some borderline relationships were interpreted in specific circumstances).

14.11 Implications for policy

It could be advisable for policymakers to target individuals with higher pre-enlistment vulnerability scores for resettlement provision; these are more likely to have poor transition outcomes, and this thesis provides evidence that resettlement does have a positive effect. It may be that, for ethical or practical reasons, screening for pre-enlistment vulnerability is not possible (due to the sensitive nature of such questions). Consequently the Services (who are the first point of contact for resettlement) could instead target groups who are more prone to higher pre-enlistment vulnerability, e.g. those in the Army, enlisted personnel, and those with combat roles.

The positive effect of resettlement provides a good argument for extending resettlement to those who currently do not benefit – in particular, ESLs, who are undergoing unplanned leaving and hence are at high risk of unsuccessful transition. The MOD has explored avenues in this area, most notably with the “Future Horizons Programme” trial, which seeks to pro-actively engage ESLs with a provision tailored for their requirements. It is difficult to judge the effectiveness of this programme¹²⁸, but the providers are committed to adjusting the provision as lessons are learned (Fossey, 2012). Extra effort should also be made to ensure that those who are entitled to resettlement exploit it, in particular medical dischargees who are at risk of missing the resettlement to which they are entitled.

Given the positive effect of resettlement on employment, it may be valuable to enhance the process by placing more emphasis on the parts which are currently less utilised (e.g.

¹²⁸ At 6 months after leaving, 69% were in employment or training. By comparison, MOD surveys showed 16% of ESLs were seeking work, when surveyed at any point up to 2 years after leaving; those who leave and engaged with the resettlement to which they were entitled had employment rates above 90% (see Chapter 10.2). Direct comparisons are difficult, in particular because the Future Horizons Programme consisted almost entirely of infantry (who are traditionally recruited from socially deprived areas), and also because 92% of those in the programme were from the untrained strength and hence were unlikely to have acquired transferrable skills.

housing and financial briefings). Furthermore, as resettlement is associated with better mental health, it may be amenable to greater exploitation as a psycho-educational tool.

14.12 Recommendations for future investigation

As stated above, this thesis does not include data on type and quality of employment, specific type of housing, and how these compared with incomes and situations in previous military life – more detailed studies of these domains could determine objectively how post-Service life compares to in-Service life. Satisfaction with employment, housing, social experiences and so forth could be investigated to obtain more subjective information on how veterans reflect on their transitions. Additionally, it was not possible to determine the effectiveness of specific elements of the resettlement process – prospective studies, taking into account pre-resettlement situation as well as resettlement aspects utilised, would provide a more detailed picture of the specific interventions by which resettlement improves transition outcomes. Qualitative approaches could be potentially valuable into understanding why personnel do and do not take up resettlement, and the ways in which resettlement may (or may not) have facilitated their transition, as well as investigate attitudes towards transition before leaving and reflections afterward.

14.13 Conclusions

Primary findings of this thesis were that resettlement is associated with better transition outcomes, and appears to have an effect by two routes – it improved employment rates, and was associated with better mental health.

This thesis also found that unsuccessful transition is related to a number of factors, including pre-enlistment vulnerability, being single, and leaving in an unplanned fashion. Military factors, particularly rank and Service, are relatively unimportant after adjustment for these and other personal factors; the exception arose when PTSD

symptomatology is considered, where combat role is relevant. Outcomes for veterans tend to improve over time and there was no evidence of a “military retirement syndrome”.

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Appendix 1 Phase 1 questionnaire

Following is the questionnaire used in phase 1 data collection (i.e. the original sampling phase). The questionnaire presented is that provided to regulars who had deployed to Operation TELIC. Regulars who formed the Era sample answered the same questionnaire, except that their deployment-related section was directed to their most recent deployment, and certain other questions specific to Operation TELIC were omitted. This thesis does not consider Operation TELIC beyond the issue of whether the individual deployed on that operation, so no questions which differ between TELIC and Era questionnaires affect this thesis. The questionnaires presented to reservists differed in some ways, but are not included as reservists were excluded from my sample.

CONFIDENTIAL

HEALTH SURVEY OF MILITARY PERSONNEL

- ▶ This study is important and will make a difference.
- ▶ The questionnaire will not take as long to fill in as you think.
- ▶ By participating in the study, you will help yourself and your colleagues in the future.
- ▶ You don't have to fill in this questionnaire - participation in this survey is voluntary.
- ▶ The information you provide is 100% confidential.
- ▶ We are not the MoD.
- ▶ You could win £2000.
- ▶ Please turn over for more information.

T/reg

You are invited to participate in one of the largest ever health studies of British Armed Forces personnel. The aim is to monitor the health effects of deploying on Op TELIC and **serving in the Armed Forces**. We believe this study will make a difference. If you agree to participate, you will be helping to shape the Armed Forces now and in the future.

We are sending questionnaires to 20,000 Service personnel and plan to visit as many bases as possible. This is the initial stage of what will become the first long term study of military life in the 21st century. Your name was randomly selected from Armed Forces Personnel databases. We hope to keep in touch with you every few years as you continue your military career, and later when you leave to return to civilian life.

Whether you have health problems or not, are serving or have left the Armed Forces, it is important for us to receive your completed questionnaire.

You are under no obligation to take part in this study and are free to withdraw at any time. However, your participation is important so that we may learn about the possible health effects of deployment, and about the pluses and minuses of military life in the long term.

This study is funded by the MoD but is being carried out by a completely independent research group at King's College London. **All the personal information you give us will be completely confidential** and stored anonymously. Nobody outside the research team, including the MoD, will ever have access to it.

There is wide support for this study. The Principal Personnel Officers (Second Sea Lord, Adjutant General, Air Member for Personnel) and the Surgeon General, as well as SSAFA and the Royal British Legion, fully support the study.

If you have any queries, please contact us at the King's Centre for Military Health Research (KCMHR). The phone number, address, email and website can be found at the bottom of this page.

With thanks in anticipation of your help.

Professor Simon Wessely

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CONTACT INFORMATION

This page will be removed and stored separately from your questionnaire

Please use **BLOCK** capitals

To ensure that our records are up-to-date and complete, please provide the following information:

Surname Date of birth
First name Service number
Maiden name (if applicable) Rank

Preferred contact address

.....
.....
.....
..... Postcode

Telephone numbers

Home:
Work:
Mobile:
Email Address*:

*If you would like to receive e-mail updates about the research, please tick here: ☐

In order to help us keep in touch with you to continue this important work, please provide the name and address of one person (next of kin, family or friend) who is likely to know where you are in the future.

Best contact

Surname First name
Address
.....
.....
Postcode Telephone

T/reg

CONSENT

It is essential that we gain accurate and complete information. We may need to clarify information you provide in this survey or obtain additional details from your records (such as injuries) to help our research. We need your permission to do this.

All information will be treated totally confidentially, as with all personal information you give us. All the information will be stored in strict security and no one other than the study team will have access to it now or in the future. We would also like to contact you again to continue this important work.

I **agree** to allow the research team access to my **vaccination records** Yes ☐ No ☐

I **agree** to allow the research team access to
information about medical category and injuries Yes ☐ No ☐

I **agree** to be **contacted again** by the research team Yes ☐ No ☐

PLEASE SIGN YOUR NAME:

SIGNATURE:

Print Name: Date:

PRIZE DRAW

We appreciate you taking the time to complete this questionnaire.

As a thank you, we are offering those who return a completed questionnaire to us the opportunity to take part in a £2,000 prize draw either for yourself or for a charity of your choice.

Please tick the box below if you would like your name to be entered in the draw.

I **DO** want my name entered into the prize draw ☐

SECTION I - Demographic Information

I.1 What is your date of birth? (day/month/year) / /

I.2 Are you: Male ☐¹ Female ☐²

I.3 How tall are you? (please indicate whether feet & inches or cm)

I.4 How much do you currently weigh? (please indicate whether stones & lbs or kgs)

I.5 Are you:

Married	<input type="checkbox"/> ¹	Separated	<input type="checkbox"/> ⁵
Living with partner	<input type="checkbox"/> ²	Divorced	<input type="checkbox"/> ⁶
In long term relationship	<input type="checkbox"/> ³	Widowed	<input type="checkbox"/> ⁷
Single & not in long term relationship	<input type="checkbox"/> ⁴		

I.6 12 months ago, were you:

Married	<input type="checkbox"/> ¹	Separated	<input type="checkbox"/> ⁵
Living with partner	<input type="checkbox"/> ²	Divorced	<input type="checkbox"/> ⁶
In long term relationship	<input type="checkbox"/> ³	Widowed	<input type="checkbox"/> ⁷
Single & not in long term relationship	<input type="checkbox"/> ⁴		

I.7 Is your spouse/partner:

A regular/ex-regular in the Armed Forces	<input type="checkbox"/> ¹	A civilian in the MoD	<input type="checkbox"/> ³
A reservist/ex-reservist in the Armed Forces	<input type="checkbox"/> ²	Other civilian	<input type="checkbox"/> ⁴

I.8 What is the highest level of education you have completed to date?

Left school with no qualifications	<input type="checkbox"/> ¹	Degree/NVQs level 4-5	<input type="checkbox"/> ⁴
O levels / GCSEs / NVQs level 1-2 or equivalent	<input type="checkbox"/> ²	Postgraduate qualifications	<input type="checkbox"/> ⁵
A levels / HNDs / NVQs level 3 / Highers or equivalent	<input type="checkbox"/> ³	Other professional qualifications	<input type="checkbox"/> ⁶

I.9 Are you currently:

Working full time in the Armed Forces	<input type="checkbox"/> ¹	Retired	<input type="checkbox"/> ⁶
Working full or part time in a civilian job	<input type="checkbox"/> ²	Other	<input type="checkbox"/> ⁷
Self-employed	<input type="checkbox"/> ³	(Please specify)	
Not working, seeking employment	<input type="checkbox"/> ⁴	
Not working due to ill-health	<input type="checkbox"/> ⁵	

I.10 How many children under 18 years of age do you have who live with you?

I.11 How many children under 18 years of age do you have who DO NOT live with you?

SECTION 2 – Service Information

2.1 Are you currently serving? Yes ☐¹ (if yes, go to 2.4) No ☐²

2.2 If you are **NO LONGER SERVING**, when did you leave? (month/year) /

2.3 If you have left the Armed Forces, how did you leave?

End of contract	<input type="checkbox"/> ¹	Disciplinary reasons	<input type="checkbox"/> ⁶
Premature voluntary release	<input type="checkbox"/> ²	Welfare/family reasons	<input type="checkbox"/> ⁷
Medical discharge	<input type="checkbox"/> ³	Retirement to pension	<input type="checkbox"/> ⁸
Administrative discharge	<input type="checkbox"/> ⁴	Other (please specify)	<input type="checkbox"/> ⁹
Temperamental unsuitability	<input type="checkbox"/> ⁵	

2.4 What is your current type of engagement, or your last type if you have left the Forces?

Regular (RN, Army, RAF)	<input type="checkbox"/> ¹
RNR	<input type="checkbox"/> ²
RMR	<input type="checkbox"/> ³
TA local independent unit	<input type="checkbox"/> ⁴
TA national specialist unit	<input type="checkbox"/> ⁵
RAuxAF	<input type="checkbox"/> ⁶
RFR/Army Reserve/RAFR (recalled ex-regular)	<input type="checkbox"/> ⁷
FTRS (Full-Time Reserve Service)	<input type="checkbox"/> ⁸
Other (please specify)	<input type="checkbox"/> ⁹

2.5 What is your current rank or what was your rank when you left the military?

Senior Commissioned Officer (Cdr/Lt Col/Wg Cdr and above)	<input type="checkbox"/> ¹
Commissioned Officer (to Lt Cdr/Maj/Sqn Ldr)	<input type="checkbox"/> ²
Senior Non-Commissioned Officer	<input type="checkbox"/> ³
Junior Non-Commissioned Officer (LH/Cpl/LCpl)	<input type="checkbox"/> ⁴
Other ranks (AB/Pte/AC/JT or equivalent)	<input type="checkbox"/> ⁵
Other (please specify)	<input type="checkbox"/> ⁶

2.6 What is (or was at time of discharge) your major and minor parent unit? (e.g. Ship, Regiment and Company, or Squadron and Flight)

.....

2.7 What is (or was at time of discharge) your primary role/trade within your parent unit?

Combat	<input type="checkbox"/> ¹	Military police	<input type="checkbox"/> ⁹
Medical/welfare	<input type="checkbox"/> ²	Flight Operations	<input type="checkbox"/> ¹⁰
Logistics/supply	<input type="checkbox"/> ³	Administrative	<input type="checkbox"/> ¹¹
Air crew	<input type="checkbox"/> ⁴	Musician	<input type="checkbox"/> ¹²
Engineering	<input type="checkbox"/> ⁵	Warfare Branch	<input type="checkbox"/> ¹³
Catering/chef	<input type="checkbox"/> ⁶	Air Force Protection	<input type="checkbox"/> ¹⁴
Intelligence	<input type="checkbox"/> ⁷	Other (Please specify)	<input type="checkbox"/> ¹⁵
Communications	<input type="checkbox"/> ⁸	

2.8 In the past THREEYEARS, roughly how many months in total have you been away on deployment?

..... months

2.9 On which of the following major operations have you been deployed?

(If you do not know the name of the operation, please tick the country)

- | | | |
|---|---|--------------------------|
| <input type="checkbox"/> ^a Afghanistan | Op VERITAS (2001 onwards) | <input type="checkbox"/> |
| | Op FINGAL (2002 onwards) | <input type="checkbox"/> |
| | Op JACANA (2002) | <input type="checkbox"/> |
| <input type="checkbox"/> ^b Angola | Op CHANTRESS (1995) | <input type="checkbox"/> |
| <input type="checkbox"/> ^c Bosnia & Kosovo | Op OCULUS (2003) | <input type="checkbox"/> |
| <input type="checkbox"/> ^d Bosnia-Herzegovina | Op GRAPPLE (1992-1995) | <input type="checkbox"/> |
| | Ops RESOLUTE/LODESTAR/PALATINE (1995 onwards) | <input type="checkbox"/> |
| <input type="checkbox"/> ^e Congo | Op TARROCK Working with UN forces in Congo | <input type="checkbox"/> |
| <input type="checkbox"/> ^f Falklands | Op CORPORATE (1982) | <input type="checkbox"/> |
| <input type="checkbox"/> ^g Gulf | Op GRANBY (1990-1991) | <input type="checkbox"/> |
| <input type="checkbox"/> ^h Iraq | Op TELIC 1 (2003) | <input type="checkbox"/> |
| | Op TELIC 2 and later (2003-) | <input type="checkbox"/> |
| <input type="checkbox"/> ⁱ Kosovo | Op AGRICOLA (1999 onwards) | <input type="checkbox"/> |
| <input type="checkbox"/> ^j Kuwait | Op DRIVER (1994) | <input type="checkbox"/> |
| <input type="checkbox"/> ^k Macedonia | Op BESSEMER (2001) | <input type="checkbox"/> |
| | Op UPMINSTER (1998-1999) | <input type="checkbox"/> |
| <input type="checkbox"/> ^l Northern Iraq / | Op HAVEN (1991) | <input type="checkbox"/> |
| Southern Turkey | Op NORTHERN WATCH (1991 – 2003) | <input type="checkbox"/> |
| <input type="checkbox"/> ^m Northern Ireland | Op BANNER (1969 onwards) | <input type="checkbox"/> |
| | Other | <input type="checkbox"/> |
| <input type="checkbox"/> ⁿ Oman | SAIF SAREEA | <input type="checkbox"/> |
| <input type="checkbox"/> ^o Rwanda | Op GABRIEL (1994) | <input type="checkbox"/> |
| <input type="checkbox"/> ^p Sierra Leone | Op BARRAS/ BASILICA/ PALLISER/ SILKMAN (2000) | <input type="checkbox"/> |
| <input type="checkbox"/> ^q Southern Iraq / Kuwait | Op SOUTHERN WATCH (1991 – 2003) | <input type="checkbox"/> |
| <input type="checkbox"/> ^r UK firefighting support | Op FRESCO (2002 – 2003) | <input type="checkbox"/> |

2.10 If you have been on any other operational deployments (not exercises), please list here:

.....

.....

.....

SECTION 3 – Before your deployment

Please answer the following questions in relation to **Op TELIC I**.

3.1 How much advance notice were you given before your mobilisation on Op TELIC I?

..... weeks OR days

3.2 Before your departure on Op TELIC I, how many months did you expect to be deployed for?

0-3 months	<input type="checkbox"/> ¹	10-12 months	<input type="checkbox"/> ⁴
4-6 months	<input type="checkbox"/> ²	13 months or more	<input type="checkbox"/> ⁵
7-9 months	<input type="checkbox"/> ³	I did not know	<input type="checkbox"/> ⁶

3.3 Before deployment did you think that NBC attack was:

Very unlikely	<input type="checkbox"/> ¹	Somewhat likely	<input type="checkbox"/> ³
Somewhat unlikely	<input type="checkbox"/> ²	Very likely	<input type="checkbox"/> ⁴

3.4 In terms of training, how well prepared did you feel for an NBC attack?

Very prepared	<input type="checkbox"/> ¹	Fairly unprepared	<input type="checkbox"/> ³
Fairly prepared	<input type="checkbox"/> ²	Very unprepared	<input type="checkbox"/> ⁴

3.5 Which statements were true or false before you deployed on Op TELIC I?

(Please tick **ONE** box for each question)

	True 1	False 2	Not applicable 3
a) My family was proud that I was being deployed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) My family did not want me to go.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) I was well supported by my family.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) I argued more with my partner	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The next few questions ask about the anthrax vaccine.

3.6 In preparation for Op TELIC I, were you OFFERED the anthrax vaccine? Yes ☐¹ No ☐² (go to 3.16)

3.7 Did you ACCEPT the first vaccination against anthrax? Yes ☐¹ No ☐² (go to 3.13)

3.8 How many anthrax vaccinations did you receive in theatre?

0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 or more ☐

3.9 What was the total number of anthrax vaccinations you received JUST BEFORE, DURING OR IMMEDIATELY AFTER Op TELIC I?

0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 or more ☐

3.10 If you only received one or two anthrax vaccines, was this because:

I was not offered more ☐¹ Other reason (Please specify) ☐³
 I refused further injections ☐²

3.11 If you had the vaccine, did you have any side effects, and if so which? (Tick all that apply)

a) No side effects ☐ d) Sore arm ☐
 b) Feeling like you had 'flu' ☐ e) Other (Please specify) ☐
 c) Feeling tired ☐

3.12 Did any of these side effects prevent you from doing your normal duties? Yes ☐¹ No ☐²

3.13 If you chose NOT to receive vaccination against anthrax, what factors influenced you in this decision?

	No Influence 1	Some influence 2	A lot of influence 3
a) Insufficient/unclear information about vaccine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Concern that it was voluntary	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Concern about side effects	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Did not think NBC/CBW attack was significant risk	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Influence of partner/family	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Influence of colleagues	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Influence from the chain of command	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h) Adverse publicity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i) Previous bad personal experience with the vaccine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j) Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(please specify)			

Whether you accepted the vaccine or not:

3.14 Did you feel pressure from others to take the anthrax vaccine?

Yes, a lot ☐¹ Yes, a little ☐² Not at all ☐³

3.15 Were you satisfied with the decision you made?

Yes ☐¹ No ☐² Not sure ☐³

For everyone - whether you were offered the vaccine or not

3.16 Would you take the anthrax vaccination if it were offered now?

Definitely would ☐¹ Probably would ☐² Probably would not ☐³ Definitely would not ☐⁴

3.17 If you currently have any concerns about the anthrax vaccine, please explain:

.....
.....

3.18 What was the maximum number of ANY vaccines (anthrax and all others) you received in one day in preparation for Op TELIC I?

.....

SECTION 4 – During deployment on Op TELIC I

4.1 When did you enter theatre? (day/month/year) / /

4.2 Where were you deployed? (Please tick ALL that apply)

- | | | | |
|-------------------------------------|--------------------------|------------------------------------|--------------------------|
| a) Cyprus | <input type="checkbox"/> | m) Shuaikah Port..... | <input type="checkbox"/> |
| b) Bahrain..... | <input type="checkbox"/> | n) Al Nasiriyah | <input type="checkbox"/> |
| c) Kuwait | <input type="checkbox"/> | o) Amarah | <input type="checkbox"/> |
| d) Basra City | <input type="checkbox"/> | p) Al Qurnah | <input type="checkbox"/> |
| e) Basra International Airport..... | <input type="checkbox"/> | q) Jalibah..... | <input type="checkbox"/> |
| f) Umm Qasr | <input type="checkbox"/> | r) Tallil Airbase | <input type="checkbox"/> |
| g) Qatar | <input type="checkbox"/> | s) Shuaibah Port..... | <input type="checkbox"/> |
| h) Safwan | <input type="checkbox"/> | t) Shaibah Airfield | <input type="checkbox"/> |
| i) Al Faw Peninsula | <input type="checkbox"/> | u) Other Middle East country | <input type="checkbox"/> |
| j) Rumaila Oilfields | <input type="checkbox"/> | Which one? | |
| k) Az Zubayr | <input type="checkbox"/> | v) Other (Please specify) | <input type="checkbox"/> |
| l) Saudi Arabia | <input type="checkbox"/> | | |

4.3 When you deployed, did you deploy with your parent unit? Yes ☐¹ No ☐²

4.4 If no, what major and minor unit did you serve with during deployment (e.g. Ship, Regiment and Company, or Squadron and Flight)

.....

4.5 During deployment, what was your MAIN duty in theatre?

- | | | | |
|------------------------|---------------------------------------|------------------------------|--|
| Combat | <input type="checkbox"/> ¹ | Military police | <input type="checkbox"/> ⁹ |
| Medical/welfare | <input type="checkbox"/> ² | Flight Operations | <input type="checkbox"/> ¹⁰ |
| Logistics/supply | <input type="checkbox"/> ³ | Administrative | <input type="checkbox"/> ¹¹ |
| Air crew | <input type="checkbox"/> ⁴ | Musician | <input type="checkbox"/> ¹² |
| Engineering | <input type="checkbox"/> ⁵ | Warfare Branch | <input type="checkbox"/> ¹³ |
| Catering/chef | <input type="checkbox"/> ⁶ | Air Force Protection | <input type="checkbox"/> ¹⁴ |
| Intelligence | <input type="checkbox"/> ⁷ | Other (Please specify) | <input type="checkbox"/> ¹⁵ |
| Communications | <input type="checkbox"/> ⁸ | | |

4.6 Did you feel that the work asked of you in theatre generally matched your trade experiences and ability?

- Yes ☐¹
 No, work was generally **above** my trade experience and ability ☐²
 No, work was generally **beneath** my trade experience and ability ☐³
 No, work was generally **outside** my trade experience and ability ☐⁴

4.7 During your deployment, was part of your role to work as an Environmental Health Technician? Yes ☐¹ No ☐²

4.8 During Op TELIC I, for how long were you in a forward area and in close contact with the enemy?

- Not at all ☐¹ Up to one week ☐² Up to one month ☐³ More than a month ☐⁴

4.9 Did you discharge your weapon (personal, vehicle or artillery) in direct combat?

- Yes ☐¹ No ☐²

4.10 Did you ever think you might be killed? Yes ☐¹ No ☐²

4.11 How concerned were you about friendly fire? A lot ☐¹ A little ☐² Not at all ☐³

4.12 During Op TELIC I did you: (please tick ALL that apply)

- | | | | |
|------------------------------------|--------------------------|---|--------------------------|
| a) See personnel wounded or killed | <input type="checkbox"/> | e) Come under mortar/Scuds/artillery fire | <input type="checkbox"/> |
| b) Handle bodies | <input type="checkbox"/> | f) Experience a landmine strike | <input type="checkbox"/> |
| c) Give aid to wounded | <input type="checkbox"/> | g) Experience hostility from civilians | <input type="checkbox"/> |
| d) Come under small arms fire | <input type="checkbox"/> | | |

4.13 If you saw personnel wounded or killed, were they: (please tick ALL that apply)

- coalition forces ☐¹ enemy forces ☐² civilians ☐³

4.14 If you handled bodies, were they of: (please tick ALL that apply)

- coalition forces ☐¹ enemy forces ☐² civilians ☐³

4.15 If you gave aid to the wounded, was this to: (please tick ALL that apply)

- coalition forces ☐¹ enemy forces ☐² civilians ☐³

4.16 While you were deployed on Op TELIC I, did you use or come into contact with any of the following? (Tick ALL that apply)

- | | | | |
|--|--------------------------|---------------------------|--------------------------|
| a) Military issue insect repellent (DEET) | <input type="checkbox"/> | h) Asbestos | <input type="checkbox"/> |
| b) Insecticides purchased in theatre | <input type="checkbox"/> | i) Industrial chemicals | <input type="checkbox"/> |
| c) Handheld flyspray | <input type="checkbox"/> | j) Lasers | <input type="checkbox"/> |
| d) Other pesticide sprays/swing fog machines | <input type="checkbox"/> | k) Personal Role Radios | <input type="checkbox"/> |
| e) Smoke from oil well fires | <input type="checkbox"/> | l) Other (Please specify) | <input type="checkbox"/> |
| f) Fumes from fuels and oils (diesel, exhaust etc) | <input type="checkbox"/> | | |
| g) Jet fuel | <input type="checkbox"/> | | |

4.17 Depleted Uranium (DU): Please tick if you:

- | | TELIC ^a | GRANBY ^b | Any Balkans ^c | Other ^d |
|--|--------------------------|--------------------------|--------------------------|--------------------------|
| a) Handled DU ordnance on: | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b) Inhaled DU dust on: | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c) Entered vehicles knocked out by DU munitions on: | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| d) Entered/closely inspected destroyed military vehicles on: | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

4.18 Have you been, or are you considering being screened for DU? Yes ☐¹ No ☐²

4.19 Did you take NAPS tablets during your deployment?

- | | |
|--|---|
| Yes, always when issued <input type="checkbox"/> ¹ | No, even when issued <input type="checkbox"/> ³ (go to 4.22) |
| Yes, sometimes when issued <input type="checkbox"/> ² | No, I was never issued <input type="checkbox"/> ⁴ (go to 4.23) |

4.20 For how many days did you take NAPS tablets? days

4.21 Did you experience any side effects from taking NAPS? (Tick ALL that apply)

- | | |
|---|---------------------------------------|
| a) I had no side effects <input type="checkbox"/> | e) Diarrhoea <input type="checkbox"/> |
| b) Headaches <input type="checkbox"/> | f) Nausea <input type="checkbox"/> |
| c) Muscle problems <input type="checkbox"/> | g) Other <input type="checkbox"/> |
| d) Dizziness <input type="checkbox"/> | (Please specify) |

4.22 If you did not take NAPS, or you stopped taking them, why? (Tick ALL that apply)

- | | |
|--|--|
| a) Concerned about side effects <input type="checkbox"/> | d) Other (Please specify) <input type="checkbox"/> |
| b) Did not think it was necessary <input type="checkbox"/> | |
| c) Forgot to take them <input type="checkbox"/> | |

4.23 Did you take BATS tablets during your deployment? Yes ☐¹ No ☐²

4.24 During deployment, how many times did you put on your respirator because of alerts and not as part of an exercise?

- | | | |
|--|---|--|
| Not at all <input type="checkbox"/> ¹ | 6-10 times <input type="checkbox"/> ³ | 20-29 times <input type="checkbox"/> ⁵ |
| 1-5 times <input type="checkbox"/> ² | 11-19 times <input type="checkbox"/> ⁴ | 30 times or more <input type="checkbox"/> ⁶ |

4.25 Were you OFFERED anti-malarials during Op TELIC 1? Yes ☐¹ No ☐² (if no, go to 4.28)

4.26 Did you TAKE anti-malarials during Op TELIC 1? Yes ☐¹ No ☐² (if no, go to 4.28)

4.27 If you took them, did you experience side-effects? Yes ☐¹ No ☐²

4.28 WHETHER YOU TOOK THEM OR NOT, did you have any concerns about taking them?

.....

.....

.....

The following questions are about your health during Op TELIC I.

4.29 How many times did you report sick during your deployment on Op TELIC I? times

4.30 Did you spend one or more nights under medical care during this deployment?

Yes ☐¹ No ☐²

4.31 If yes, please explain why:

.....

4.32 Did you have diarrhoea and/or vomiting during deployment on Op TELIC I?

Yes ☐¹ No ☐² (if no, go to question 4.35)

4.33 Did the symptoms of diarrhoea and/or vomiting prevent you from carrying out your duties?

Yes ☐¹ No ☐²

4.34 Did you need intravenous fluids (a drip) as a result of diarrhoea and/or vomiting?

Yes ☐¹ No ☐²

Here are some general questions about your deployment.

4.35 How much do you agree or disagree with the following statements?

Please tick ONE box for each statement under the answer that best describes how you felt during your deployment on Op TELIC I.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
	1	2	3	4	5
a) I felt a sense of comradeship (or closeness) between myself and other people in my unit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) I could have gone to most people in my unit if I had a personal problem	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) My seniors were interested in what I did or thought	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) I felt well informed about what was going on	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4.36 Did the military provide any reassurance/support to your family whilst you were deployed?

(e.g. phone calls or visits, arranging 'get togethers' with other service families, newsletters etc)

Yes, it was sufficient ☐¹ Yes, but it was not sufficient ☐² No ☐³

4.37 During your deployment, did you have any major personal problems at home? (e.g. financial, family problems etc) (Please tick ALL that apply)

- a) I had no major problems at home during this deployment☐
- b) I did not receive enough personal support from my family☐
- c) My partner left me☐
- d) There were problems with my children☐
- e) I had serious financial problems☐
- f) I faced other major problems at home whilst deployed☐

4.38 What effect did the media coverage of the war have on your family?

Very positive effect ☐¹ Positive effect ☐² Had no effect ☐³ Negative effect ☐⁴ Very negative effect ☐⁵

4.39 If you wish, please explain:

.....

4.40 What, if any, were the THREE MOST rewarding (first column) and THREE LEAST rewarding (second column) aspects of your service on Op TELIC I? (Please tick up to THREE for each column)

- | | A
Most rewarding | B
Least rewarding |
|--|--------------------------|--------------------------|
| a) Quality of leadership of senior chain of command | <input type="checkbox"/> | <input type="checkbox"/> |
| b) Working with equipment under operational conditions | <input type="checkbox"/> | <input type="checkbox"/> |
| c) Engaging in combat | <input type="checkbox"/> | <input type="checkbox"/> |
| d) Not being in barracks | <input type="checkbox"/> | <input type="checkbox"/> |
| e) Getting rid of Saddam..... | <input type="checkbox"/> | <input type="checkbox"/> |
| f) Helping the local people..... | <input type="checkbox"/> | <input type="checkbox"/> |
| g) Teamwork/comradeship | <input type="checkbox"/> | <input type="checkbox"/> |
| h) Being separated from family/friends | <input type="checkbox"/> | <input type="checkbox"/> |
| i) Doing the job you were trained to do | <input type="checkbox"/> | <input type="checkbox"/> |
| j) Quality of leadership of immediate commanders | <input type="checkbox"/> | <input type="checkbox"/> |
| k) Working with other UK military units | <input type="checkbox"/> | <input type="checkbox"/> |
| l) Working with coalition forces | <input type="checkbox"/> | <input type="checkbox"/> |
| m) Quality of food | <input type="checkbox"/> | <input type="checkbox"/> |
| n) Boredom | <input type="checkbox"/> | <input type="checkbox"/> |
| o) Embedded journalists | <input type="checkbox"/> | <input type="checkbox"/> |
| p) Quality and supply of equipment | <input type="checkbox"/> | <input type="checkbox"/> |
| q) Physical conditions in theatre (e.g. sand, climate etc) | <input type="checkbox"/> | <input type="checkbox"/> |
| r) Media coverage of the war | <input type="checkbox"/> | <input type="checkbox"/> |
| s) Other (Please specify) | <input type="checkbox"/> | <input type="checkbox"/> |
| | | |

SECTION 5 – Post deployment on Op TELIC I

We are now going to ask you some questions about your homecoming from Op TELIC I.

5.1 When did you exit from theatre? (day/month/year) / /

5.2 Why did you exit from theatre?

- | | | | |
|---|---------------------------------------|---|---------------------------------------|
| End of deployment | <input type="checkbox"/> ¹ | Routine change of draft/appointment/posting | <input type="checkbox"/> ⁵ |
| CASEVACed through injury or ill health | <input type="checkbox"/> ² | Other | <input type="checkbox"/> ⁶ |
| Compassionate leave/problems at home | <input type="checkbox"/> ³ | (Please specify) | |
| To attend professional training courses | <input type="checkbox"/> ⁴ | | |

5.3 After leaving theatre, how long did you spend in your base location before going on post deployment leave?

- Went straight on leave ☐¹ Within a week ☐² 1- 2 weeks ☐³ 2 or more weeks ☐⁴

5.4 Did you receive a verbal homecoming brief? Yes ☐¹ No ☐² (if no, go to 5.6)

5.5 If so, was it useful? Yes ☐¹ No ☐²

5.6 In the weeks after I came home.....

(Please tick ONE for each statement where applicable)

- | | Strongly
disagree
1 | Disagree
2 | Agree
3 | Strongly
agree
4 |
|---|---------------------------|--------------------------|--------------------------|--------------------------|
| a) I had NO major problems on return from deployment | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b) I was glad to return home | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c) I was frustrated at the amount of time it took to return home | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| d) I had hoped for a more public welcome home | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| e) I was well supported by the military..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| f) I found it difficult to adjust to being back home | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| g) I was involved in physical fights outside my family..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| h) I felt lower in mood/depressed | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| i) I had nightmares at least once a week | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| j) I was proud of the contribution I had made during Op TELIC | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| k) People didn't understand what I had been through | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| l) I did not want to talk about my experiences with my family/friends..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| m) I argued more with my spouse/partner | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| n) I found it difficult to resume a sexual relationship with my partner | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| o) I lost my temper more often with my children | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| p) I was physically violent towards a family member | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| q) I was concerned my spouse/partner would leave me..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| r) I felt supported by the media | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

5.7 Overall, have your experiences on Op TELIC I made you more or less likely to continue with your service career?

Very likely ☐¹ Likely ☐² Less likely ☐³ Much less likely ☐⁴ Already discharged ☐⁵

Please explain:

.....

.....

.....

.....

SECTION 6 - Your health NOW

6.1 In general, how would you rate your health?

Excellent ☐¹
Very good ☐²
Good ☐³
Fair ☐⁴
Poor ☐⁵

6.2 If you have a current health problem, please explain

.....

.....

.....

6.3 Compared to before you were deployed on Op TELIC I, how would you rate your health now?

Much better now ☐¹
Somewhat better now ☐²
About the same ☐³
Somewhat worse now ☐⁴
Much worse now ☐⁵

6.4 Does your health limit you in vigorous activities such as running, lifting heavy objects, participating in strenuous sports etc.? For example, football. (Please tick ONE box)

No, not limited at all ☐¹
Yes, limited a little ☐²
Yes, limited a lot ☐³

6.5 In the PAST MONTH, to what extent has your physical health or any emotional problems interfered with your normal social activities with family, friends, neighbours, or groups? (Please tick ONE box)

- Not at all ☐¹
 Slightly ☐²
 Moderately ☐³
 Quite a bit ☐⁴
 Extremely ☐⁵

6.6 In the PAST MONTH, have you had any of the following problems with your work or other regular daily activities as a result of your physical health? (Please tick ONE box on each line)

- | | Yes
1 | No
2 |
|---|--------------------------|--------------------------|
| a) Cut down on the amount of time you spent on work or other activities | <input type="checkbox"/> | <input type="checkbox"/> |
| b) Accomplished less than you would like | <input type="checkbox"/> | <input type="checkbox"/> |
| c) Were limited in the kind of work or other activities | <input type="checkbox"/> | <input type="checkbox"/> |
| d) Had difficulty performing the work or other activities (e.g. it took extra effort) | <input type="checkbox"/> | <input type="checkbox"/> |

6.7 Please choose the answer that best describes how true or false each of the following statements are for you. (Please tick ONE box on each line)

- | | Definitely
True
1 | Mostly
True
2 | Mostly
False
3 | Definitely
False
4 |
|---|--------------------------|--------------------------|--------------------------|--------------------------|
| a) I seem to get ill more easily than other people..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b) I expect my health to get worse | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c) I am as healthy as anybody I know | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| d) My health is excellent..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

6.8 Please indicate whether you have had any of the following symptoms in the PAST MONTH. We would also like to know how bad the symptom has been.

Have you had this symptom in the past month?^a

If yes, how bad has it been?^b

	Yes 1	No 2		Mild 1	Mod 2	Severe 3
Chest pain ¹	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Headaches ²	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rapid heartbeat ³	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Irritability/outbursts of anger ⁴	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Unable to breathe deeply enough ⁵	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Faster breathing than normal ⁶	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Feeling short of breath at rest ⁷	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wheezing ⁸	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sleeping difficulties ⁹	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Feeling jumpy/easily startled ¹⁰	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Feeling unrefreshed after sleep ¹¹	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fatigue ¹²	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Double vision ¹³	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Intolerance to alcohol ¹⁴	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Itchy or painful eyes ¹⁵	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shaking ¹⁶	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tingling in fingers and arms ¹⁷	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tingling in legs and toes ¹⁸	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Numbness in fingers/toes ¹⁹	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Feeling distant or cut off from others ²⁰	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Constipation ²¹	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Flatulence or burping ²²	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Stomach cramp ²³	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Diarrhoea ²⁴	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dry mouth ²⁵	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Persistent cough ²⁶	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lump in throat ²⁷	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sore throat ²⁸	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Forgetfulness ²⁹	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Have you had this symptom in the past month?^a

If yes, how bad has it been?^b

	Yes 1	No 2		Mild 1	Mod 2	Severe 3
Dizziness ³⁰	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Feeling disorientated ³¹	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Loss of concentration ³²	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pain on passing urine ³³	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Passing urine more often ³⁴	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Burning sensation in the sex organs ³⁵	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Loss of interest in sex ³⁶	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Increased sensitivity to noise ³⁷	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Increased sensitivity to light ³⁸	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ringing in the ears ³⁹	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Avoiding doing things/situations ⁴⁰	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pain, without swelling or redness in several joints ⁴¹	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Joint stiffness ⁴²	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Feeling that your bowel movement is not finished ⁴³	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Changeable bowel function (mixture of diarrhoea /constipation) ⁴⁴	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nightsweats which soak the bedsheets ⁴⁵	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Feeling feverish ⁴⁶	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Loss or decrease in appetite ⁴⁷	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nausea ⁴⁸	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vomiting ⁴⁹	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Distressing dreams ⁵⁰	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Stomach bloating ⁵¹	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Unintended weight gain greater than 10lbs ⁵²	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Unintended weight loss greater than 10lbs ⁵³	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6.9 Here are some general questions about your health.

Please answer ALL the questions on the page by **CIRCLING** the answer which you think most closely applies to you.

Within the LAST FEW WEEKS have you:

	0	1	2	3
a) been able to concentrate on whatever you're doing?	Better than usual	Same as usual	Less than usual	Much less than usual
b) lost much sleep over worry?	Not at all	No more than usual	Rather more than usual	Much more than usual
c) felt that you are playing a useful part in things?	More so than usual	Same as usual	Less useful than usual	Much less useful
d) felt capable of making decisions about things?	More so than usual	Same as usual	Less so than usual	Much less capable
e) felt constantly under strain?	Not at all	No more than usual	Rather more than usual	Much more than usual
f) felt you couldn't overcome your difficulties?	Not at all	No more than usual	Rather more than usual	Much more than usual
g) been able to enjoy your normal day to day activities?	More so than usual	Same as usual	Less so than usual	Much less than usual
h) been able to face up to your problems?	More so than usual	Same as usual	Less able than usual	Much less able
i) been feeling unhappy and depressed?	Not at all	No more than usual	Rather more than usual	Much more than usual
j) been losing confidence in yourself?	Not at all	No more than usual	Rather more than usual	Much more than usual
k) been thinking of yourself as a worthless person?	Not at all	No more than usual	Rather more than usual	Much more than usual
l) been feeling reasonably happy, all things considered?	More so than usual	About the same as usual	Less so than usual	Much less than usual

6.10 We would like to know whether or not you have been having any problems with feeling tired, weak or lacking in energy in the LAST MONTH? If you have been feeling tired for a long time we want you to compare yourself to how you felt when you were last well. Please CIRCLE the answer which you think most closely applies to you.

	0	1	2	3
a) Do you have problems with tiredness?	Less than usual	No more than usual	More than usual	Much more than usual
b) Do you need to rest more?	Less than usual	No more than usual	More than usual	Much more than usual
c) Do you feel sleepy or drowsy?	Less than usual	No more than usual	More than usual	Much more than usual
d) Do you have problems starting things?	Less than usual	No more than usual	More than usual	Much more than usual
e) Do you lack energy?	Less than usual	No more than usual	More than usual	Much more than usual
f) How is your muscle strength?	Better than usual	Same as usual	Worse than usual	Much worse than usual
g) Do you feel weak?	Less than usual	No more than usual	More than usual	Much more than usual
h) Do you make slips of the tongue when speaking?	Less than usual	No more than usual	More than usual	Much more than usual
i) Do you find it difficult to find the correct word?	Less than usual	No more than usual	More than usual	Much more than usual
j) How is your memory?	Better than usual	No worse than usual	Worse than usual	Much worse than usual
k) Do your muscles hurt when resting?	Less than usual	No more than usual	More than usual	Much more than usual
l) Do your muscles hurt after exercise?	Less than usual	No more than usual	More than usual	Much more than usual

6.11 If you are generally tired at the moment, please indicate approximately how long this has lasted.

I do not feel tired at the moment	<input type="checkbox"/> ¹	Between 3 and 6 months	<input type="checkbox"/> ⁴
Less than 1 week	<input type="checkbox"/> ²	6 months or more	<input type="checkbox"/> ⁵
Less than 3 months	<input type="checkbox"/> ³		

6.12 Here is a list of problems and complaints that people sometimes have in relation to stressful experiences. How much have you been bothered by these problems in the PAST MONTH?

Please read each one carefully, then tick the answer which you think most applies to you.

	Not at all 1	A little bit 2	Moderately 3	Quite a bit 4	Extremely 5
a) Repeated, disturbing memories, thoughts, or images of a stressful experience?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Repeated, disturbing dreams of a stressful experience?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Suddenly acting or feeling as if a stressful experience were happening again (as if you were re-living it)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Feeling very upset when something reminded you of a stressful experience?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Having physical reactions (e.g. heart pounding, trouble breathing, sweating) when something reminded you of a stressful experience?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Avoiding thinking about or talking about a stressful experience?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Avoiding activities or situations because they reminded you of a stressful experience?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h) Trouble remembering important parts of a stressful experience?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i) Loss of interest in activities that you used to enjoy?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j) Feeling distant or cut-off from other people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
k) Feeling emotionally numb or being unable to have loving feelings to those who are close to you?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
l) Feeling as if your future will somehow be cut short?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
m) Having trouble falling or staying asleep?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
n) Feeling irritable or having angry outbursts?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
o) Having difficulty concentrating?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
p) Being super alert, watchful or on-guard?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
q) Feeling jumpy or easily startled?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6.13 Was the stressful experience(s) you referred to in the question above:

A military experience ☐¹ A non-military experience ☐² Both ☐³

Here are some questions about your lifestyle.

6.14 How often do you use your seatbelt when you drive or ride in a car/vehicle?

Always ☐¹ Nearly Always ☐² Sometimes ☐³ Seldom ☐⁴ Never ☐⁵

6.15 Do you drive?

Yes ☐¹ No ☐² (if no, go to 6.18)

6.16 When you are driving in a built up area, how close to the speed limit do you usually drive?

Within 5 miles per hour ☐¹
 6-10 miles per hour above the limit ☐²
 More than 10 miles per hour above the limit ☐³

6.17 When you are driving on a motorway, how close to the speed limit do you usually drive?

Within 10 miles per hour ☐¹
 11-20 miles per hour above the limit ☐²
 More than 20 miles per hour above the limit ☐³

6.18 How many times in the LAST THREE MONTHS did you drive or ride with a driver when you/they were probably over the legal limit of alcohol?

..... times in the last three months

6.19 How often do you have a drink containing alcohol?

Never <input type="checkbox"/> ¹	2 times a week <input type="checkbox"/> ⁴
Monthly or less <input type="checkbox"/> ²	3 times a week <input type="checkbox"/> ⁵
2-4 times a month <input type="checkbox"/> ³	4 times or more a week <input type="checkbox"/> ⁶

*A pint of standard beer / lager = 2 units.
 A pint / can of strong beer / lager = 3 units.*

*A single measure of spirit / small glass of wine = 1 unit.
 A bottle of alcopop (e.g. Smirnoff Ice) = 1.5 units*

6.20 How many UNITS of alcohol do you have on a typical day when you are drinking?

1 or 2 <input type="checkbox"/> ¹	10 to 14 <input type="checkbox"/> ⁵
3 or 4 <input type="checkbox"/> ²	15 to 19 <input type="checkbox"/> ⁶
5 or 6 <input type="checkbox"/> ³	20 to 29 <input type="checkbox"/> ⁷
7 to 9 <input type="checkbox"/> ⁴	30 or more <input type="checkbox"/> ⁸

6.21 How often do you have six or more units on one occasion?

Never <input type="checkbox"/> ¹	Weekly <input type="checkbox"/> ⁴
Less than monthly <input type="checkbox"/> ²	Daily/almost daily <input type="checkbox"/> ⁵
Monthly <input type="checkbox"/> ³	

6.22 How often during the PAST YEAR have you found that you were not able to stop drinking once you had started?

Never	<input type="checkbox"/> ¹	Weekly	<input type="checkbox"/> ⁴
Less than monthly	<input type="checkbox"/> ²	Daily/almost daily	<input type="checkbox"/> ⁵
Monthly	<input type="checkbox"/> ³		

6.23 How often during the PAST YEAR have you failed to do what was normally expected of you because of drinking?

Never	<input type="checkbox"/> ¹	Weekly	<input type="checkbox"/> ⁴
Less than monthly	<input type="checkbox"/> ²	Daily/almost daily	<input type="checkbox"/> ⁵
Monthly	<input type="checkbox"/> ³		

6.24 How often during the PAST YEAR have you needed a first drink in the morning to get yourself going after a drinking session?

Never	<input type="checkbox"/> ¹	Weekly	<input type="checkbox"/> ⁴
Less than monthly	<input type="checkbox"/> ²	Daily/almost daily	<input type="checkbox"/> ⁵
Monthly	<input type="checkbox"/> ³		

6.25 How often during the PAST YEAR have you had a feeling of guilt or remorse after drinking?

Never	<input type="checkbox"/> ¹	Weekly	<input type="checkbox"/> ⁴
Less than monthly	<input type="checkbox"/> ²	Daily/almost daily	<input type="checkbox"/> ⁵
Monthly	<input type="checkbox"/> ³		

6.26 How often during the PAST YEAR have you been unable to remember what happened the night before because you had been drinking?

Never	<input type="checkbox"/> ¹	Weekly	<input type="checkbox"/> ⁴
Less than monthly	<input type="checkbox"/> ²	Daily/almost daily	<input type="checkbox"/> ⁵
Monthly	<input type="checkbox"/> ³		

6.27 Have you or has someone else been injured as a result of your drinking?

No ☐¹ Yes, but not in the past year ☐² Yes, during the past year ☐³

6.28 Has a relative / friend / health worker been concerned about your drinking / suggested you cut down?

No ☐¹ Yes, but not in the past year ☐² Yes, during the past year ☐³

6.29 Have you smoked more than 100 cigarettes (5 packets of 20) in your lifetime?

Yes ☐¹ No ☐²

6.30 Do you currently smoke? Yes ☐¹ No ☐² (if no, go to shaded box at top of page 21)

6.31 How many cigarettes, cigars or rollups do you smoke a day? per day

We are interested in finding out about your physical activities in the LAST 7 DAYS.

If you are currently injured or off sick, please answer the questions
as if it were a normal 7-day period.

When answering the questions, please consider activities you do at home, at work,
getting from place to place, and in your spare time for recreation, exercise or sport.

Please answer every question

VIGOROUS ACTIVITIES

6.32 During the last 7 days, on how many days did you do VIGOROUS physical activities like heavy lifting, forced marches, BFTs, circuit training, running or football.

Please think only about VIGOROUS activities which take hard physical effort and make you breathe harder than usual, and which you have done for longer than 10 minutes at a time.

..... days per week. (I have not done any vigorous physical activities ☐, go to 6.34)

6.33 How much time did you usually spend doing VIGOROUS physical activities on ONE of those days.

..... hours and minutes per day

MODERATE ACTIVITIES

6.34 During the last 7 days, on how many days did you do MODERATE physical activities like carrying light loads, ceremonial marching or cycling at a regular pace.

Please think only about MODERATE activities which take moderate physical effort and make you breathe somewhat harder than usual, and which you have done for longer than 10 minutes at a time.

..... days per week. (I have not done any moderate physical activities ☐, go to 6.36)

6.35 How much time did you usually spend doing MODERATE physical activities on ONE of those days.

..... hours and minutes per day

WALKING

6.36 During the last 7 days, on how many days did you WALK for at least 10 minutes at a time?

This includes at work, home, and getting from place to place etc.

..... days per week. (I have not done any walking ☐, go to 6.38)

6.37 How much time did you usually spend WALKING on ONE of those days.

..... hours and minutes per day

The next few questions ask about your life at work and at home.

6.38 To what extent do you agree with the following statements about your normal day to day work for the Armed Forces? Please tick ONE option for each statement.

In my normal day to day work for the Armed Forces:	Strongly agree 1	Agree 2	Disagree 3	Strongly disagree 4
a) I have to work very hard.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) I have an excessive amount of work to do.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) I have a lot of say about what happens on the job	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) I have a high level of skill	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) I have the freedom to decide how I do my work.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) I have the chance to be creative	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6.39 If you are in a relationship, please read the following statements and indicate how much you currently agree/disagree with each. (if you are not in a relationship please go to Section 7)

	Strongly agree 1	Agree 2	Disagree 3	Strongly disagree 4
a) I am satisfied with my spouse/partner	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) My relationship with my spouse/partner makes me happy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6.40 Have you or your spouse/partner ever seriously suggested the idea of divorce or permanent separation within the LAST YEAR?

Yes ☐¹ No ☐²

SECTION 7 – Background information

7.1 Have you ever experienced or suffered any of the following, before, during or after your military career? (Please tick ALL that apply)

a) Arthritis	<input type="checkbox"/>	k) Gallstones	<input type="checkbox"/>
b) Allergy (e.g. eczema, asthma, rhinitis)	<input type="checkbox"/>	l) Heart attack	<input type="checkbox"/>
c) Angina	<input type="checkbox"/>	m) High blood pressure	<input type="checkbox"/>
d) Alcohol problems	<input type="checkbox"/>	n) Malaria	<input type="checkbox"/>
e) Back problems.....	<input type="checkbox"/>	o) Panic/anxiety symptoms	<input type="checkbox"/>
f) Chronic Fatigue Syndrome.....	<input type="checkbox"/>	p) Pneumonia	<input type="checkbox"/>
g) Purposely harmed yourself (e.g. overdose).....	<input type="checkbox"/>	q) Stomach/duodenal ulcer	<input type="checkbox"/>
h) Depression.....	<input type="checkbox"/>	r) Tuberculosis.....	<input type="checkbox"/>
i) Diabetes	<input type="checkbox"/>	s) Post Traumatic Stress Disorder	<input type="checkbox"/>
j) Epilepsy	<input type="checkbox"/>	t) Kidney problems	<input type="checkbox"/>

7.2 In the last 5 years, have you had a serious accident (e.g. been taken to an A & E department or similar)

Yes ☐¹ No ☐² (if no, go to shaded box below)

7.3 If yes, was it caused by: (Tick all that apply)

- | | | | |
|--|--------------------------|---------------------------|--------------------------|
| a) Road traffic accident | <input type="checkbox"/> | e) Military training | <input type="checkbox"/> |
| b) A sport/leisure activity | <input type="checkbox"/> | f) Military operations | <input type="checkbox"/> |
| c) An accident at home | <input type="checkbox"/> | g) Other (Please specify) | <input type="checkbox"/> |
| d) An event outside your control (e.g. earthquake) | <input type="checkbox"/> | | |

You will be aware that in the past, some Service personnel have expressed concern about reproductive health. We would be grateful if you would answer the following questions.
If you have **NEVER** fathered/had a pregnancy and have **NEVER** had fertility problems, please tick the box and go to question 7.8 ☐

7.4 Do you have any LIVING children who were conceived BEFORE deployment on Op TELIC I?

Yes ☐¹ (If yes, number of children) No ☐²

7.5 Do you have any LIVING children who were conceived AFTER deployment on Op TELIC I?

Yes ☐¹ (If yes, number of children) No ☐²

7.6 Have you fathered/had any pregnancies ending in the following outcomes? Please give the number CONCEIVED BEFORE (first column) or AFTER (second column) deployment on Op TELIC I?

	A Number of pregnancies conceived BEFORE TELIC	B Number of pregnancies conceived AFTER TELIC
a) Child born alive but who died within one week of life
b) Child born alive but who died after one week of life
c) Miscarriage (less than 24 weeks gestation)
d) Stillbirth (24 weeks or more gestation)
e) Termination (abortion) because something was wrong with the baby
f) Termination (abortion) for other reasons
g) Ectopic pregnancy
h) Other outcome
(Please specify)		

7.7 Have you ever been investigated by a doctor (or are currently awaiting investigation) for infertility?

No ☐¹
 Yes, problem started BEFORE deployment on Op TELIC I ☐²
 Yes, problem started AFTER deployment on Op TELIC I ☐³

People come to the military from a variety of different backgrounds. We are interested to see if and how experiences before you joined the Armed Forces affect your health and wellbeing.

7.8 When I was growing up (please tick ONE option for each statement)

	True 1	False 2
a) I came from a close family	<input type="checkbox"/>	<input type="checkbox"/>
b) I used to get shouted at a lot at home.....	<input type="checkbox"/>	<input type="checkbox"/>
c) I often used to play truant from school	<input type="checkbox"/>	<input type="checkbox"/>
d) I felt valued by my family	<input type="checkbox"/>	<input type="checkbox"/>
e) I regularly used to see or hear physical fighting or verbal abuse between my parents	<input type="checkbox"/>	<input type="checkbox"/>
f) In my family there was at least one member I could talk to about things that were important to me	<input type="checkbox"/>	<input type="checkbox"/>
g) I used to be hit/hurt by a parent or caregiver regularly	<input type="checkbox"/>	<input type="checkbox"/>
h) One (or more) of my parents had problems with alcohol or drugs	<input type="checkbox"/>	<input type="checkbox"/>
i) My family used to do things together	<input type="checkbox"/>	<input type="checkbox"/>
j) I spent some time (any time) in Local Authority Care/ Social Services Care.....	<input type="checkbox"/>	<input type="checkbox"/>
k) I had one special teacher/youth worker/family friend who looked out for me	<input type="checkbox"/>	<input type="checkbox"/>
l) I often used to get into physical fights at school	<input type="checkbox"/>	<input type="checkbox"/>
m) There was at least one thing/activity that I did that made me feel special or proud	<input type="checkbox"/>	<input type="checkbox"/>
n) I was suspended/expelled from school (ever)	<input type="checkbox"/>	<input type="checkbox"/>
o) I had problems with reading or writing at school and needed extra help.....	<input type="checkbox"/>	<input type="checkbox"/>
p) I did things that should have got me (or did get me) into trouble with the police	<input type="checkbox"/>	<input type="checkbox"/>

7.9 How old were you when you had your first alcoholic drink?years of age

7.10 If you have ever used cannabis, how old were you when you first tried it?years of age

SECTION 8 - And finally....

8.1 Do you intend to stay in the military? Yes ☐¹ No ☐² Already discharged ☐³

If you wish, please explain:

8.2 What was your initial reason for joining the Armed Forces?

8.3 Would you recommend a career in the Armed Forces? Yes ☐¹ No ☐²

If you wish, please explain:

If you feel that there is anything we have not asked you about, which you feel is important, please describe it here. Continue overleaf if you need to.



**Please make sure you have completed contact, consent
and prize draw details at the beginning of this questionnaire**

THANK YOU FOR COMPLETING THIS QUESTIONNAIRE

PLEASE RETURN IN THE PRE-PAID ENVELOPE PROVIDED

Appendix 2 Phase 2 questionnaire

A sample Phase 2 questionnaire is given below. This form was sent to the “replenishment” sample – i.e. those who had not participated in phase 1. Those who had already filled questionnaires at phase 1 answered the same questions, except that their questionnaire excluded responses which would not have changed since phase 1.



Health & well-being survey of serving & ex-serving members of the UK Armed Forces: Phase 2

- › You are already part of the largest ever study of the UK Armed Forces. Your contribution has already made a difference - Thank you! We now need to hear from you again.
- › Participation in this study is voluntary. However, your response is vital if we are to understand the pluses and minuses of military life.
- › We are an independent academic research team based at King's College London. The MoD supports the study.
- › The information you provide is 100% confidential.
- › **NOT ALL SECTIONS WILL APPLY TO YOU**

**MORE THAN 20 PEOPLE WHO COMPLETE
THIS WILL WIN UP TO £500**

Inside cover

STUDY INFORMATION

We are contacting you because you are already part of our research study of serving and ex-serving military personnel. Thank you for taking part in the first phase of the study. We recently completed that phase of the research, and one of you has already won £2000 for taking part. You should have received a Newsletter* giving details of the findings. Our research has already had an impact - it led to a change in policy on medical care for reservists for instance - and you may have heard about the study in the press.

It may have been a while since you completed our questionnaire, so let us remind you about the study. We are conducting the largest ever long-term study of the health, wellbeing and experiences of the UK Armed Forces. The aim of the study is to (1) monitor the health of those who have served on operations such as those in Iraq and Afghanistan and (2) investigate the pluses and minuses of military life in general and to find out about your experiences as you progress through your military careers and to see how you do when you leave the Armed Forces. This study provides the opportunity to answer many important questions about military life. 20,000 of you are part of the study. We are now inviting all of you to participate in the second phase of the research.

It is really important for us to receive a completed questionnaire from you regardless of whether you -

- ▶ **are serving or have left the Armed Forces**
- ▶ **are a regular or a reservist**
- ▶ **have deployed or not**
- ▶ **have any health problems or are well**

You are under no obligation to take part in this study and you are free to withdraw at any time. However, your participation is vital if we are to understand the pluses and minuses of military life and the health effects, if any, of deployment.

We are an independent research group from King's College London. The research is supported, and funded, by MoD. However, all the information you give us is 100% confidential and is stored anonymously. Neither the MoD, nor anyone else outside the research team will ever have access to your personal records. If you want to check us out, please contact the Veterans Policy Unit on 020 7218 9832, or see the MoD website www.mod.uk and search for 'KCMHR'. There is widespread support for this study. The Principal Personnel Officers (Second Sea Lord, Adjutant General, Air Member for Personnel) and the Surgeon General, as well as SSAFA and the Royal British Legion, fully support this study.

We hope that you continue to support the study by completing and returning the questionnaire in the pre-paid envelope provided. As a thank you, we are offering those who return a completed questionnaire to us the opportunity to take part in a prize draw. There are over twenty chances of winning between £25 and £500 (prizes: 1x £500, 2x £250, 5x £100, 5x £50 & 10x £25).

**If you have not received a newsletter, a copy can be found on our website.*

Here are our contact details in case you want to get in touch with us:

King's Centre for Military Health Research (KCMHR),
King's College London, Weston Education Centre,
Cutcombe Road, LONDON, SE5 9RJ
Tel: +44 (0)20 7848 5351
Email: kcmhr@kcl.ac.uk

For more information, see our website: www.kcl.ac.uk/kcmhr
and our webpage for Study Members: www.kcl.ac.uk/kcmhr/studymembers

Blank

CONTACT INFORMATION

This page will be removed and stored separately from your questionnaire

Please use **BLOCK** capitals

To ensure that our records are up-to-date, please provide the following information:

Surname Date of birth
First name Service number
Maiden name (if applicable) Rank

Preferred contact address

.....
.....
.....
..... Postcode
Email address

Telephone numbers

Home
Work
Mobile

In order to help us keep in touch with you to continue this important work, please provide the name and address of one person (other than your own or your partner's address) who is likely to know where you are in the future.

Best contact

Surname First name
Address
.....
.....
Postcode Telephone
Relationship to you Mobile
Email address

CONSENT

It is essential that we gain accurate and complete information. We may need to clarify some of the information you provide in this survey or obtain additional details from your records (such as injuries) to help our research. We need your permission to do this.

All information will be treated totally confidentially, as with all personal information you give us. All the information will be stored in strict security and no one other than the study team will have access to it now or in the future. We would also like to contact you again to continue this important work.

I agree to allow the research team access to my vaccination records	Yes <input type="checkbox"/>	No <input type="checkbox"/>
I agree to allow the research team access to my medical records	Yes <input type="checkbox"/>	No <input type="checkbox"/>
I agree to allow the research team access to my resettlement records*	Yes <input type="checkbox"/>	No <input type="checkbox"/>

*including the record of your resettlement interview, your resettlement provision and any records of your resettlement held by the Career Transition Partnership/Right Management

PLEASE SIGN YOUR NAME:

SIGNATURE:

Print Name: Date:

WHICH SECTIONS APPLY TO YOU?

Section 1 - for **everybody**
Section 2 - for those of you who have left the regular Armed Forces
Section 3 - for those of you who have deployed on Op TELIC (Iraq)
Section 4 - for those of you who have deployed on Op HERRICK (Afghanistan)
Section 5 - for **everybody**

PRIZE DRAW - win up to £500

We appreciate you taking the time to complete this questionnaire. As a thank you, we are offering those who return a completed questionnaire to us the opportunity to take part in a prize draw either for themselves or for a charity of their choice. There are over twenty chances of winning between £25 and £500 (prizes: 1x £500, 2x £250, 5x £100, 5x £50 & 10x £25). Please tick the box below if you would like your name to be entered in the draw.

I **DO** want my name entered into the prize draw ☐

SECTION I - Background Information

1.1 What is your date of birth? (day/month/year) / /

1.2 Are you: Male ☐¹ Female ☐²

1.3 Approximately how much do you weigh? stones + pounds **or** kilograms

1.4 Are you:

Married	<input type="checkbox"/> ¹	Separated	<input type="checkbox"/> ⁵
Living with partner	<input type="checkbox"/> ²	Divorced	<input type="checkbox"/> ⁶
In long term relationship	<input type="checkbox"/> ³	Widowed	<input type="checkbox"/> ⁷
Single & not in long term relationship	<input type="checkbox"/> ⁴		

1.5 If you have children under the age of 18, please tell us the age and gender of each child, and whether or not they live with you:

Not applicable ☐

	Age (years)	Gender		Lives with you	
		Male ¹	Female ²	Yes ¹	No ²
Child 1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Child 2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Child 3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Child 4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Child 5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Child 6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

1.6 Are you currently serving?

Yes, I am a regular or Full-Time Reserve Service (FTRS)	<input type="checkbox"/> ¹	Yes, I am a recalled ex-regular	<input type="checkbox"/> ³
Yes, I am a volunteer reserve (mobilised or not)	<input type="checkbox"/> ²	No, I have left the military	<input type="checkbox"/> ⁴

1.7 To the nearest year, how long have you served:

a) As a regular/FTRS	years	Not applicable	<input type="checkbox"/>
b) As a volunteer reservist	years	Not applicable	<input type="checkbox"/>

1.8 What is your current rank or equivalent (or what was your rank when you left the military)?

Royal Navy

AB☐¹
 LR☐²
 PO to WO1☐³
 Mid to Lt Cdr☐⁴
 Cdr & above☐⁵
 Other (please specify)

Army & Royal Marines

Pte☐¹
 LCpl to Cpl☐²
 Sgt to WO1☐³
 2nd Lt to Maj☐⁴
 Lt Col & above☐⁵
 Other (please specify)

RAF

AC/LAC/SAC/JT☐¹
 Cpl☐²
 Sgt to WO☐³
 Plt Off to Sqn Ldr☐⁴
 Wg Cdr & above☐⁵
 Other (please specify)

BACKGROUND INFORMATION

- I.9 In the past THREE YEARS, please estimate how many months in total you have been away on deployment.**

..... months

- I.10 SINCE THE BEGINNING OF 2004, on which of the following major operations have you been deployed? (Approximate dates have been included to help you).**

(If you do not know the name of the operation, please tick the country)

- | | | |
|--|--|--------------------------|
| <input type="checkbox"/> ^a Afghanistan | Op HERRICK 1 (Oct 2004-Apr 2005) | <input type="checkbox"/> |
| | Op HERRICK 2 (Apr 2005-Oct 2005) | <input type="checkbox"/> |
| | Op HERRICK 3 (Oct 2005-Apr 2006) | <input type="checkbox"/> |
| | Op HERRICK 4 (Apr 2006-Oct 2006) | <input type="checkbox"/> |
| | Op HERRICK 5 (Oct 2006-Apr 2007) | <input type="checkbox"/> |
| | Op HERRICK 6 (Apr 2007-Oct 2007) | <input type="checkbox"/> |
| | Op HERRICK 7 (Oct 2007-Apr 2008) | <input type="checkbox"/> |
| | Op HERRICK 8 or later | <input type="checkbox"/> |
| <input type="checkbox"/> ^b Bosnia & Kosovo | Op OCULUS (from 2004 onwards) | <input type="checkbox"/> |
| <input type="checkbox"/> ^c Bosnia-Herzegovina | Ops RESOLUTE/LODESTAR/PALATINE (from 2004 onwards) | <input type="checkbox"/> |
| <input type="checkbox"/> ^d Gulf | Op CALASH (from 2004 onwards) | <input type="checkbox"/> |
| <input type="checkbox"/> ^e Ivory Coast | Op PHILLIS (2004) | <input type="checkbox"/> |
| <input type="checkbox"/> ^f Iraq/TELIC | Op TELIC 3 (Nov 2003-Apr 2004) | <input type="checkbox"/> |
| | Op TELIC 4 (May 2004-Oct 2004) | <input type="checkbox"/> |
| | Op TELIC 5 (Nov 2004-Apr 2005) | <input type="checkbox"/> |
| | Op TELIC 6 (May 2005-Oct 2005) | <input type="checkbox"/> |
| | Op TELIC 7 (Nov 2005-Apr 2006) | <input type="checkbox"/> |
| | Op TELIC 8 (May 2006-Nov 2006) | <input type="checkbox"/> |
| | Op TELIC 9 (Nov 2006-May 2007) | <input type="checkbox"/> |
| | Op TELIC 10 (Jun 2007-Oct 2007) | <input type="checkbox"/> |
| | Op TELIC 11 (Nov 2007-Apr 2008) | <input type="checkbox"/> |
| | Op TELIC 12 or later | <input type="checkbox"/> |
| <input type="checkbox"/> ^g Kosovo | Op AGRICOLA (from 2004 onwards) | <input type="checkbox"/> |
| | Deployment of Operational Readiness Force to Kosovo (2004) | <input type="checkbox"/> |
| <input type="checkbox"/> ^h Lebanon | Op HIGHBROW (2006) | <input type="checkbox"/> |
| <input type="checkbox"/> ⁱ Northern Ireland | Op BANNER (from 2004 onwards) | <input type="checkbox"/> |
| <input type="checkbox"/> ^j Pakistan | Op MATURIN (2005) | <input type="checkbox"/> |

- I.11 If you have been on any other operational deployments (not exercises) since Jan 2004, please list here:**

.....

.....

BACKGROUND INFORMATION

1.12 Have you been OFFERED the anthrax vaccination since JANUARY 2004?

Yes ☐¹ No ☐² (If NO, go to 1.16)

Only answer the questions in this shaded box if you HAVE been OFFERED the anthrax vaccine since January 2004

1.13 Have you RECEIVED the anthrax vaccination since January 2004? Yes ☐¹ No ☐²

1.14 If YES, did you have any of the following side effects? (Tick all that apply)

- | | | | |
|-------------------------------|--------------------------|---------------------------------|--------------------------|
| a) No side effects | <input type="checkbox"/> | d) Sore arm | <input type="checkbox"/> |
| b) Feeling like you had 'flu' | <input type="checkbox"/> | e) Other (Please specify) | <input type="checkbox"/> |
| c) Feeling tired | <input type="checkbox"/> | | |

Whether you took the anthrax vaccination or not:

1.15 a) Did you feel pressure from others to take the anthrax vaccine?

Yes, a lot ☐¹ Yes, a little ☐² Not at all ☐³

b) Were you satisfied with the decision you made?

Yes ☐¹ No ☐² Not sure ☐³

c) Would you take it if it were offered now?

Definitely would	<input type="checkbox"/> ¹	Probably would not	<input type="checkbox"/> ³
Probably would	<input type="checkbox"/> ²	Definitely would not	<input type="checkbox"/> ⁴

1.16 For those in the full time Armed Forces only (everyone else please go to Section 2), to what extent do you agree or disagree with the following statements about your normal day to day work for the Armed Forces?

Please tick ONE box for each statement

- | | Strongly agree ¹ | Agree ² | Disagree ³ | Strongly disagree ⁴ |
|---|-----------------------------|--------------------------|--------------------------|--------------------------------|
| a) I have to work very hard..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b) I have an excessive amount of work to do..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c) I have a lot of say about what happens on the job..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| d) I have a high level of skill | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| e) I have the freedom to decide how I do my work..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| f) I have the chance to be creative | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| g) People I work with are helpful in getting the job done | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| h) My supervisor/boss is helpful in getting the job done | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| i) I'm exposed to hostility or conflict from my immediate superiors | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| j) The people I work with are friendly | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

SECTION 2 – For those who have left the regular Armed Forces

If you are still serving in the regular Armed Forces OR have never been in full-time regular service, please tick this box ☐ and go to Section 3

We would like to ask you a few questions about your life since leaving the Armed Forces

2.1 When did you leave the regular Armed Forces? (month/year) /

2.2 How did you leave?

- | | |
|--|--|
| End of service term or run out date <input type="checkbox"/> ¹ | Disciplinary discharge <input type="checkbox"/> ⁶ |
| Premature voluntary release/signed off <input type="checkbox"/> ² | Voluntary redundancy <input type="checkbox"/> ⁷ |
| Medical discharge <input type="checkbox"/> ³ | Compulsory redundancy <input type="checkbox"/> ⁸ |
| Administrative discharge <input type="checkbox"/> ⁴ | Other (please specify) <input type="checkbox"/> ⁹ |
| Temperamental unsuitability/SNLR <input type="checkbox"/> ⁵ | |

2.3 Which of the following describes your reason for leaving? (please tick ALL that apply)

- | | |
|--|--|
| a) Better employment prospects in civilian life <input type="checkbox"/> | i) Too many deployments <input type="checkbox"/> |
| b) Impact of Service life on family <input type="checkbox"/> | j) Didn't want to be away from home <input type="checkbox"/> |
| c) Work not exciting or challenging enough <input type="checkbox"/> | k) My service was terminated <input type="checkbox"/> |
| d) Dissatisfaction with pay <input type="checkbox"/> | l) Health problems <input type="checkbox"/> |
| e) Lack of promotion prospects <input type="checkbox"/> | m) Pregnancy <input type="checkbox"/> |
| f) Inability to plan life outside of work <input type="checkbox"/> | n) Other (please specify) <input type="checkbox"/> |
| g) Because of my experiences on deployment <input type="checkbox"/> | |
| h) Pressure from family <input type="checkbox"/> | |

2.4 How many weeks of resettlement were you entitled to? weeks Don't know ☐

2.5 How many weeks of resettlement did you take? weeks

2.6 Did you receive vocational training (learning how to do a particular job) as part of resettlement?

Yes ☐¹ No ☐² Not applicable (did not receive resettlement) ☐³

2.7 If you did not take up your resettlement, was this:

- Because you left the Armed Forces before you were entitled to resettlement ☐¹
- Because of ill health or ill health of close family ☐²
- Because of work duties/operational deployment ☐³
- Because you have deferred resettlement ☐⁴
- Because you were unable to take it for other reasons ☐⁵

2.8 Are you currently employed? Yes ☐¹ No ☐² (If NO, go to 2.11)

2.9 If YES, how long have you been in your current job? years months

2.10 Does your current job use the vocational training you received during your resettlement?Yes ☐¹ No ☐² Not applicable (did not receive vocational training) ☐³**2.11 How many jobs have you had since you left the military?** jobs**2.12 If you are currently unemployed, what is the reason?**

Am looking for work but can't find a suitable job ☐¹
 Ill health ☐²
 Retired ☐³
 Taking a break from work ☐⁴
 Student ☐⁵
 Other (please specify) ☐⁶

2.13 What is your longest period of job-seeking since leaving the Armed Forces? months**2.14 Where are you living at the moment? (please tick the one that best applies to you)**

I live in a house I own ☐¹
 With friends or family (temporary) ☐²
 With friends or family (permanent) ☐³
 Private rented property ☐⁴
 Local authority rented property ☐⁵
 Housing association rented property ☐⁶
 Hostel/B&B ☐⁷
 Other (please specify) ☐⁸

2.15 How many places have you lived in since you left the Armed Forces?**2.16 Have you been in trouble with the police/law since you left (excluding speeding/parking offences)?**Yes ☐¹ No ☐²**2.17 Are you currently having any problems paying money you owe? (e.g. loans from family/friends, or behind with payments for credit cards, bank loans, utility bills, rent or mortgage repayments)**Yes ☐¹ No ☐² (If NO, go to Section 3)**2.18 If YES, has the amount of money that you are having problems paying gone up or down since leaving the Armed Forces?**

The amount of money I'm having problems paying has gone UP since leaving ☐¹
 The amount of money I'm having problems paying has gone DOWN since leaving ☐²
 The amount of money I'm having problems paying has stayed about the same since leaving ☐³

SECTION 3 –Your most recent deployment on Op TELIC (Iraq) since 2004

If you were on Operation TELIC 1 or 2, you have already told us about your experiences.
THANK YOU. Now we would like to know about your experiences on later TELIC operations

3.1 Which was the most recent TELIC operation in which you were involved?

(Please tick ONE box - approximate dates have been included to help you)

- | | | | |
|--------------------------------------|---------------------------------------|---------------------------------------|--|
| Op TELIC 3 (Nov 2003-Apr 2004)..... | <input type="checkbox"/> ¹ | Op TELIC 9 (Nov 2006-May 2007) | <input type="checkbox"/> ⁷ |
| Op TELIC 4 (May 2004-Oct 2004) | <input type="checkbox"/> ² | Op TELIC 10 (Jun 2007-Oct 2007) | <input type="checkbox"/> ⁸ |
| Op TELIC 5 (Nov 2004-Apr 2005) | <input type="checkbox"/> ³ | Op TELIC 11 (Nov 2007-Apr 2008) | <input type="checkbox"/> ⁹ |
| Op TELIC 6 (May 2005-Oct 2005) | <input type="checkbox"/> ⁴ | Op TELIC 12 and later | <input type="checkbox"/> ¹⁰ |
| Op TELIC 7 (Nov 2005-Apr 2006) | <input type="checkbox"/> ⁵ | None of these | <input type="checkbox"/> ¹¹ |
| Op TELIC 8 (May 2006-Nov 2006) | <input type="checkbox"/> ⁶ | | |

Please answer all of the questions in this section about your **MOST RECENT** deployment on TELIC ticked above. (If you ticked 'none of these', go to Section 4)

3.2 When did you enter theatre? (day/month/year) / /

3.3 Did you deploy with your parent unit?

- | | | | |
|--|---------------------------------------|--|---------------------------------------|
| Yes | <input type="checkbox"/> ¹ | No, I didn't deploy with anyone from my unit | <input type="checkbox"/> ³ |
| No, but I deployed with some members from my unit..... | <input type="checkbox"/> ² | Not applicable, did not have a parent unit | <input type="checkbox"/> ⁴ |

3.4 Were you mainly based in: (please tick ALL that apply)

- | | | | |
|------------------------------|--------------------------|---|--------------------------|
| a) Basra Air Station | <input type="checkbox"/> | e) Maysaan Province..... | <input type="checkbox"/> |
| b) Shaiba Log Base | <input type="checkbox"/> | f) Other areas in Iraq | <input type="checkbox"/> |
| c) Basra Palace..... | <input type="checkbox"/> | g) Other supporting areas NOT in Iraq | <input type="checkbox"/> |
| d) Shatt Al Arab hotel | <input type="checkbox"/> | (e.g. Cyprus, Kuwait) | |

3.5 What was your MAIN duty during your most recent TELIC deployment? (please tick only ONE box)

- | | | | |
|--|--|----------------------------------|--|
| Combat | <input type="checkbox"/> ¹ | Military Police..... | <input type="checkbox"/> ¹² |
| Medical mainly role 1 unit/RAP in a forward area | <input type="checkbox"/> ² | Flight Operations..... | <input type="checkbox"/> ¹³ |
| Medical mainly in role 2/3 facility/Fd Hosp | <input type="checkbox"/> ³ | Training local army/police | <input type="checkbox"/> ¹⁴ |
| EOD (bomb disposal)..... | <input type="checkbox"/> ⁴ | CIMIC | <input type="checkbox"/> ¹⁵ |
| Logistics/supply | <input type="checkbox"/> ⁵ | Administrative..... | <input type="checkbox"/> ¹⁶ |
| Aircrew | <input type="checkbox"/> ⁶ | Driver | <input type="checkbox"/> ¹⁷ |
| Engineering | <input type="checkbox"/> ⁷ | Warfare Branch | <input type="checkbox"/> ¹⁸ |
| Catering/chef | <input type="checkbox"/> ⁸ | Force Protection | <input type="checkbox"/> ¹⁹ |
| Intelligence | <input type="checkbox"/> ⁹ | Other (Please specify) | <input type="checkbox"/> ²⁰ |
| Communications | <input type="checkbox"/> ¹⁰ | | |
| Welfare..... | <input type="checkbox"/> ¹¹ | | |

YOUR MOST RECENT DEPLOYMENT ON OP TELIC (IRAQ)

3.6 Did you feel that the work asked of you in theatre generally matched your trade experiences and ability?

- Yes ☐¹
 No, work was generally **above** my trade experience and ability ☐²
 No, work was generally **beneath** my trade experience and ability ☐³

3.7 How often during your most recent TELIC deployment did you believe you were in serious danger of being injured or killed?

- Never ☐¹ Once or twice ☐² Sometimes ☐³ Many times ☐⁴

3.8 During the deployment, for how long in total were you outside your base in a hostile area?

- Not at all ☐¹ Up to one week ☐² One week to one month ☐³ More than a month ☐⁴

3.9 During your most recent TELIC deployment, how often did you:

	Never ¹	Once ²	2-4 times ³	5-9 times ⁴	10+ ⁵
a) Clear/search buildings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Give aid to wounded	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) See personnel seriously wounded or killed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Come under small arms/RPG fire	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Come under mortar/artillery fire/rocket attack	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Experience a landmine strike	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Experience hostility from Iraqi civilians	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h) Discharge your weapon in direct combat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i) Experience an IED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j) Handle bodies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
k) Had a mate shot/hit who was near you	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
l) Encounter sniper fire	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
m) Experience a threatening situation and was unable to respond due to rules of engagement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3.10 Thinking of your most difficult experience on the deployment, do you feel that:

- a) your superiors did what was expected of them Yes ☐¹ No ☐²
 b) your colleagues did what was expected of them Yes ☐¹ No ☐²
 c) you did what was expected of you Yes ☐¹ No ☐²

3.11 During the deployment, how often did your superiors:

Please tick **ONE** box for each statement

Never¹ Seldom² Sometimes³ Often⁴ Always⁵

- a) Embarrass juniors in front of others ☐ ☐ ☐ ☐ ☐
- b) Treat all members of the unit fairly..... ☐ ☐ ☐ ☐ ☐
- c) Show concern about safety of members of the unit ☐ ☐ ☐ ☐ ☐
- d) Accept extra duties/tasks for the unit in order to
 impress their superiors ☐ ☐ ☐ ☐ ☐

YOUR MOST RECENT DEPLOYMENT ON OP TELIC (IRAQ)

3.12 How much do you agree or disagree with the following statements? Please tick **ONE** box for each statement under the answer that best describes how you felt during your most recent TELIC deployment.

	Strongly agree ¹	Agree ²	Neither agree nor disagree ³	Disagree ⁴	Strongly disagree ⁵
<i>During my most recent TELIC deployment:</i>					
a) I felt a sense of comradeship (or closeness) between myself and other people in my unit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) I could have gone to most people in my unit if I had a personal problem	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) My seniors were interested in what I did or thought	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) I felt well informed about what was going on in my unit.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3.13 We would like to hear about any major problems (e.g. financial, family problems) you may have had at home during your most recent TELIC deployment. Please tick **ONE** box for each statement

	Agree ¹	Disagree ²	Not applicable ³
a) I did not receive enough personal support from my family	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) I had serious financial problems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) My partner/spouse left me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) There were problems with my children	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) I was concerned I might lose my civilian job	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) I faced other major problems at home whilst deployed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3.14 Did the military provide any support to your spouse/partner whilst you were deployed?

(e.g. phone calls or visits, arranging 'get togethers' with other service families, newsletters)

Yes, and it was enough	<input type="checkbox"/> ¹	No, no support was provided	<input type="checkbox"/> ³
Yes, but it was not enough	<input type="checkbox"/> ²	Not applicable	<input type="checkbox"/> ⁴

3.15 During your most recent TELIC deployment, did you have any injuries from any of the following?

(Please tick all that apply)

a) I did not have any injuries	<input type="checkbox"/>	e) Any type of vehicle (inc. aeroplane)	<input type="checkbox"/>
b) Fragment	<input type="checkbox"/>	f) Blast (IED, RPG, land mine, grenade etc)	<input type="checkbox"/>
c) Bullet	<input type="checkbox"/>	g) Other please specify	<input type="checkbox"/>
d) A fall	<input type="checkbox"/>		

3.16 Did any of these injuries result in any of the following? (Please tick all that apply)

a) Being dazed, confused or 'seeing stars'	<input type="checkbox"/>	d) Concussion (e.g. headache, dizziness)	<input type="checkbox"/>
b) Not remembering the injury	<input type="checkbox"/>	e) Head injury	<input type="checkbox"/>
c) Losing consciousness (knocked out)	<input type="checkbox"/>	f) None of these	<input type="checkbox"/>

3.17 If you were knocked out, for how long (approx)? hours minutes

YOUR MOST RECENT DEPLOYMENT ON OP TELIC (IRAQ)

3.18 Did you have a period of Operational Stand Down (time in Kuwait) during this deployment?

Yes ☐¹ No ☐²

3.19 How long did you deploy? months and weeks

3.20 When did you exit from theatre? (day/month/year) / /

3.21 Why did you exit from theatre? (please tick ONE box only)

End of deployment☐¹ Routine change of draft/appointment/posting☐⁵
CASEVACed (combat related injury)☐² Other (Please specify)☐⁶
CASEVACed (non-combat related injury/illness)☐³
Compassionate leave/problems at home☐⁴

3.22 Did you receive a verbal homecoming brief after this deployment? Yes ☐¹ No ☐²

3.23 After leaving theatre following your most recent TELIC deployment, did you have a short period of time away from the operational area for you to relax before returning to your home base (or the home base of the unit you deployed with)?

Yes ☐¹ No ☐² (If NO, go to 3.25)

3.24 If YES,

a) For how many days? days

b) Was MOST of this time: Structured (daily programme of activities) ☐¹ OR Unstructured (no planned activities) ☐²

c) Did you find this period of time useful? Yes ☐¹ No ☐²

Please explain:

3.25 After returning to your usual home base (or the home base of the unit you deployed with), were you required to spend time there before being allowed to go on Post Operational Tour Leave?

Yes ☐¹ No ☐² (If NO, go to 3.27)

3.26 If YES,

a) For how many days? days

b) Was MOST of this time: Structured (daily programme of activities) ☐¹ OR Unstructured (no planned activities) ☐²

c) Did you find this period of time useful? Yes ☐¹ No ☐²

Please explain:

YOUR MOST RECENT DEPLOYMENT ON OP TELIC (IRAQ)

3.27 Do you think the tasks you did whilst on your most recent TELIC deployment made a useful contribution to:

- a) The local population Yes ☐¹ No ☐²
 b) The military mission as a whole Yes ☐¹ No ☐²

3.28 Overall, did you think the UK public was supportive of the mission in Iraq during your most recent deployment?

- Yes ☐¹ No ☐²

3.29 Since coming home, has anyone had a go at you or given you a hard time because you went to Iraq?

- Yes ☐¹ No ☐²

3.30 Overall, have your experiences on your most recent TELIC deployment made you more or less likely to continue your military career?

- More likely ☐¹ No difference ☐² Less likely ☐³ Already discharged ☐⁴

3.31 To what extent do you agree or disagree with the following statements about returning from your most recent TELIC deployment? (Please tick ONE for each statement)

- | In the weeks after I came home..... | Agree ¹ | Disagree ² | Not applicable ³ |
|--|--------------------------|--------------------------|-----------------------------|
| a) I had NO major problems on return from deployment..... | <input type="checkbox"/> | <input type="checkbox"/> | |
| b) I was well supported by the military..... | <input type="checkbox"/> | <input type="checkbox"/> | |
| c) I found it difficult to adjust to being back home | <input type="checkbox"/> | <input type="checkbox"/> | |
| d) People didn't understand what I had been through..... | <input type="checkbox"/> | <input type="checkbox"/> | |
| e) I did not want to talk about my experiences with my family/friends..... | <input type="checkbox"/> | <input type="checkbox"/> | |
| f) I found it difficult to resume my normal social activities | <input type="checkbox"/> | <input type="checkbox"/> | |
| g) I had serious financial problems | <input type="checkbox"/> | <input type="checkbox"/> | |
| h) I argued more with my spouse/partner | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| i) I have been let down by people who I thought would stand by me | <input type="checkbox"/> | <input type="checkbox"/> | |
| j) I was involved in physical fights outside my family | <input type="checkbox"/> | <input type="checkbox"/> | |
| k) I was physically violent towards a family member | <input type="checkbox"/> | <input type="checkbox"/> | |
| l) I had other major problems on return from deployment | <input type="checkbox"/> | <input type="checkbox"/> | |

3.32 Did you have any of the following problems with your health as a result of your most recent TELIC deployment? If YES, did you go to see any of the following professionals?

- | | Did you have? | | If YES, did you go to: | | |
|---------------------------------|--------------------------|--------------------------|--------------------------|---|--|
| | Yes ¹ | No ² | GP/MO | A specialist
(e.g. hospital doctor;
psychiatrist,
CPN, counsellor) | Non-medical
professional (e.g.
padre, social worker,
welfare officer) |
| a) Physical ill health | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b) Stress/emotional problems | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c) Alcohol problems | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| d) Relationship/family problems | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Only answer the questions in this shaded box if you DEPLOYED as a RESERVIST on your most recent deployment on Op TELIC (Iraq).

If you deployed as a regular, please go straight to Section 4

Please answer these questions about your most recent deployment to TELIC/Iraq ticked on page 6.

3.33 Were you in civilian employment at the time of your call-up for deployment?

- Yes ☐ ¹
 No ☐ ²
 Already in FTRS or equivalent ☐ ³

3.34 Did you feel pressure from your unit to volunteer for the deployment?

- Yes, from formal chain of command ☐ ¹
 Yes, from mates within unit ☐ ²
 No, I did not feel pressure ☐ ³
 Not applicable ☐ ⁴

3.35 Post-deployment, did you return to the same job you held before your mobilisation?

- Yes ☐ ¹
 No, resigned at time of call-up/mobilisation ☐ ²
 No, contract of employment ended just before/during deployment ☐ ³
 No, employer **kept job** open for me but I chose not to return ☐ ⁴
 No, employer **did not keep** job open for me, but I wanted to return ☐ ⁵
 No, employer **did not keep** job open for me, and I didn't want to return ☐ ⁶
 No, other reason (*please specify*) ☐ ⁷

3.36 If you returned to the same job, were any of the following a problem?

- | | Yes ¹ | No ² | Not applicable ³ |
|--|--------------------------|--------------------------|-----------------------------|
| a) Loss of seniority, promotion opportunity, or responsibility in civilian job | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b) Loss of income during call-up | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c) Lack of support or resentment from co-workers | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| d) Lack of support from employer | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

SECTION 4 –Your most recent deployment on Op HERRICK (Afghanistan)

4.1 Which was the most recent HERRICK operation on which you were involved?

(Please tick ONE box - approximate dates have been included to help you)

- | | |
|--|--|
| Op HERRICK 1 (Oct 2004-Apr 2005) <input type="checkbox"/> ¹ | Op HERRICK 6 (Apr 2007-Oct 2007) <input type="checkbox"/> ⁶ |
| Op HERRICK 2 (Apr 2005-Oct 2005) <input type="checkbox"/> ² | Op HERRICK 7 (Oct 2007-Apr 2008) <input type="checkbox"/> ⁷ |
| Op HERRICK 3 (Oct 2005-Apr 2006) <input type="checkbox"/> ³ | Op HERRICK 8 and later <input type="checkbox"/> ⁸ |
| Op HERRICK 4 (Apr 2006-Oct 2006) <input type="checkbox"/> ⁴ | None of these <input type="checkbox"/> ⁹ |
| Op HERRICK 5 (Oct 2006-Apr 2007) <input type="checkbox"/> ⁵ | |

Please answer all of the questions in this section about your **MOST RECENT** deployment on HERRICK ticked above. (If you ticked 'none of these', go to Section 5)

4.2 When did you enter theatre? (day/month/year) / /

4.3 Did you deploy with your parent unit?

- Yes.....☐¹
- No, but I deployed with some members from my unit.....☐²
- No, I didn't deploy with anyone from my unit.....☐³
- Not applicable, did not have a parent unit☐⁴

4.4 Were you based in: (please tick ALL that apply)

- | | |
|--|--|
| a) Camp Bastion <input type="checkbox"/> | e) Gereshk <input type="checkbox"/> |
| b) Kandahar <input type="checkbox"/> | f) Garmisir <input type="checkbox"/> |
| c) Lashkar Gah <input type="checkbox"/> | g) Other areas in Afghanistan <input type="checkbox"/> |
| d) Kabul..... <input type="checkbox"/> | h) Other supporting areas NOT in Afghanistan <input type="checkbox"/> |

4.5 What was your MAIN duty during your most recent HERRICK deployment? (please tick only ONE box)

- | | |
|--|---|
| Combat <input type="checkbox"/> ¹ | Military Police..... <input type="checkbox"/> ¹² |
| Medical mainly role 1 unit/RAP in a forward area <input type="checkbox"/> ² | Flight Operations..... <input type="checkbox"/> ¹³ |
| Medical mainly in role 2/3 facility/Fd Hosp <input type="checkbox"/> ³ | Training local army/police <input type="checkbox"/> ¹⁴ |
| EOD (bomb disposal)..... <input type="checkbox"/> ⁴ | CIMIC..... <input type="checkbox"/> ¹⁵ |
| Logistics/supply <input type="checkbox"/> ⁵ | Administrative <input type="checkbox"/> ¹⁶ |
| Aircrew <input type="checkbox"/> ⁶ | Driver..... <input type="checkbox"/> ¹⁷ |
| Engineering <input type="checkbox"/> ⁷ | Warfare Branch <input type="checkbox"/> ¹⁸ |
| Catering/chef <input type="checkbox"/> ⁸ | Force Protection <input type="checkbox"/> ¹⁹ |
| Intelligence <input type="checkbox"/> ⁹ | Other (Please specify) <input type="checkbox"/> ²⁰ |
| Communications <input type="checkbox"/> ¹⁰ | |
| Welfare..... <input type="checkbox"/> ¹¹ | |

YOUR MOST RECENT DEPLOYMENT ON OP HERRICK (AFGHANISTAN)

4.6 Did you feel that the work asked of you in theatre generally matched your trade experiences and ability?

- Yes ☐¹
 No, work was generally **above** my trade experience and ability ☐²
 No, work was generally **beneath** my trade experience and ability ☐³

4.7 How often during your most recent HERRICK deployment did you believe you were in serious danger of being injured or killed?

- Never ☐¹ Once or twice ☐² Sometimes ☐³ Many times ☐⁴

4.8 During the deployment, for how long in total were you outside your base in a hostile area?

- Not at all ☐¹ Up to one week ☐² One week to one month ☐³ More than a month ☐⁴

4.9 During your most recent HERRICK deployment, how often did you:

	Never ¹	Once ²	2-4 times ³	5-9 times ⁴	10+ ⁵
a) Clear/search buildings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Give aid to wounded	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) See personnel seriously wounded or killed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Come under small arms fire/RPG fire	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Come under mortar/artillery fire/rocket attack	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Experience a landmine strike	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Experience hostility from Afghan civilians	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h) Discharge your weapon in direct combat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i) Experience an IED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j) Handle bodies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
k) Have a mate shot/hit who was near you	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
l) Encounter sniper fire	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
m) Experience a threatening situation and was unable to respond due to rules of engagement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
n) Clear/search caves or bunkers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4.10 Thinking of your most difficult experience on the deployment, do you feel that:

- a) your superiors did what was expected of them Yes ☐¹ No ☐²
 b) your colleagues did what was expected of them Yes ☐¹ No ☐²
 c) you did what was expected of you Yes ☐¹ No ☐²

4.11 During the deployment, how often did your superiors:

Please tick ONE box for each statement

Never¹ Seldom² Sometimes³ Often⁴ Always⁵

- a) Embarrass juniors in front of others☐☐☐☐☐
 b) Treat all members of the unit fairly.....☐☐☐☐☐
 c) Show concern about safety of members of the unit☐☐☐☐☐
 d) Accept extra duties/tasks for the unit in order to impress their superiors☐☐☐☐☐

YOUR MOST RECENT DEPLOYMENT ON OP HERRICK (AFGHANISTAN)

4.12 How much do you agree or disagree with the following statements?

Please tick ONE box for each statement under the answer that best describes how you felt during your most recent deployment to Afghanistan.

	Strongly agree ¹	Agree ²	Neither agree nor disagree ³	Disagree ⁴	Strongly disagree ⁵
<i>During my most recent HERRICK deployment:</i>					
a) I felt a sense of comradeship (or closeness) between myself and other people in my unit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) I could have gone to most people in my unit if I had a personal problem	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) My seniors were interested in what I did or thought	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) I felt well informed about what was going on in my unit.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4.13 We would like to hear about any major problems (e.g. financial, family problems) you may have had at home during your most recent HERRICK deployment. Please tick ONE box for each statement

	Agree ¹	Disagree ²	Not applicable ³
a) I did not receive enough personal support from my family	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) I had serious financial problems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) My partner/spouse left me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) There were problems with my children	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) I was concerned I might lose my civilian job	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) I faced other major problems at home whilst deployed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4.14 Did the military provide any support to your spouse/partner whilst you were deployed?

(e.g. phone calls or visits, arranging 'get togethers' with other service families, newsletters)

Yes, and it was enough	<input type="checkbox"/> ¹	No, no support was provided	<input type="checkbox"/> ³
Yes, but it was not enough	<input type="checkbox"/> ²	Not applicable	<input type="checkbox"/> ⁴

4.15 During your most recent HERRICK deployment, did you have any injuries from any of the following? (Please tick all that apply)

a) I did not have any injuries	<input type="checkbox"/>	e) Any type of vehicle (inc. aeroplane)	<input type="checkbox"/>
b) Fragment	<input type="checkbox"/>	f) Blast (IED, RPG, land mine, grenade etc)	<input type="checkbox"/>
c) Bullet	<input type="checkbox"/>	g) Other please specify	<input type="checkbox"/>
d) A fall	<input type="checkbox"/>		

4.16 Did any of these injuries result in any of the following? (Please tick all that apply)

a) Being dazed, confused or 'seeing stars'	<input type="checkbox"/>	d) Concussion (e.g. headache, dizziness)	<input type="checkbox"/>
b) Not remembering the injury	<input type="checkbox"/>	e) Head injury	<input type="checkbox"/>
c) Losing consciousness (knocked out)	<input type="checkbox"/>	f) None of these	<input type="checkbox"/>

4.17 If you were knocked out, for how long (approx)?

..... hours minutes

YOUR MOST RECENT DEPLOYMENT ON OP HERRICK (AFGHANISTAN)

4.18 How long did you deploy? months and weeks

4.19 When did you exit from theatre? (day/month/year) / /

4.20 Why did you exit from theatre? (please tick ONE box only)

- End of deployment ☐¹
CASEVACed (combat related injury) ☐²
CASEVACed (non-combat related injury/illness) ☐³
Compassionate leave/problems at home ☐⁴
Routine change of draft/appointment/posting ☐⁵
Other (Please specify) ☐⁶
.....

4.21 Did you receive a verbal homecoming brief after this deployment? Yes ☐¹ No ☐²

4.22 After leaving theatre following your most recent HERRICK deployment, did you have a short period of time away from the operational area for you to relax before returning to your home base (or the home base of the unit you deployed with)?

Yes ☐¹ No ☐² (If NO, go to 4.24)

4.23 If YES,

a) For how many days? days

b) Was MOST of this time: Structured (daily programme of activities) ☐¹ OR Unstructured (no planned activities) ☐²

c) Did you find this period of time useful? Yes ☐¹ No ☐²

Please explain:

4.24 After returning to your usual home base (or the home base of the unit you deployed with), were you required to spend time there before being allowed to go on Post Operational Tour Leave?

Yes ☐¹ No ☐² (If NO, go to 4.26)

4.25 If YES,

a) For how many days? days

b) Was MOST of this time: Structured (daily programme of activities) ☐¹ OR Unstructured (no planned activities) ☐²

c) Did you find this period of time useful? Yes ☐¹ No ☐²

Please explain:

YOUR MOST RECENT DEPLOYMENT ON OP HERRICK (AFGHANISTAN)

4.26 Do you think the tasks you did whilst on your most recent HERRICK deployment made a useful contribution to:

- a) The local population Yes ☐¹ No ☐²
 b) The military mission as a whole Yes ☐¹ No ☐²

4.27 Overall, did you think the UK public was supportive of the mission in Afghanistan during your most recent deployment?

- Yes ☐¹ No ☐²

4.28 Since coming home, has anyone had a go at you or given you a hard time because you went to Afghanistan?

- Yes ☐¹ No ☐²

4.29 Overall, have your experiences on your most recent HERRICK deployment made you more or less likely to continue your military career?

- More likely ☐¹ No difference ☐² Less likely ☐³ Already discharged ☐⁴

4.30 To what extent do you agree or disagree with the following statements about returning from your most recent HERRICK deployment? (Please tick ONE for each statement)

- In the weeks after I came home..... Agree¹ Disagree² Not applicable³
- a) I had NO major problems on return from deployment..... ☐ ☐
 b) I was well supported by the military..... ☐ ☐
 c) I found it difficult to adjust to being back home ☐ ☐
 d) People didn't understand what I had been through..... ☐ ☐
 e) I did not want to talk about my experiences with my family/friends..... ☐ ☐
 f) I found it difficult to resume my normal social activities ☐ ☐
 g) I had serious financial problems ☐ ☐
 h) I argued more with my spouse/partner ☐ ☐ ☐
 i) I have been let down by people who I thought would stand by me ☐ ☐
 j) I was involved in physical fights outside my family ☐ ☐
 k) I was physically violent towards a family member ☐ ☐
 l) I had other major problems on return from deployment ☐ ☐

4.31 Did you have any of the following problems with your health as a result of your most recent HERRICK deployment? If YES, did you go to see any of the following professionals?

- | | Did you have? | | If YES, did you go to: | | |
|---------------------------------|--------------------------|--------------------------|--------------------------|---|--|
| | Yes ¹ | No ² | GP/MO | A specialist
(e.g. hospital doctor,
psychiatrist,
CPN, counsellor) | Non-medical
professional (e.g.
padre, social worker,
welfare officer) |
| a) Physical ill health | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b) Stress/emotional problems | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c) Alcohol problems | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| d) Relationship/family problems | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Only answer the questions in this shaded box if you DEPLOYED as a RESERVIST on your most recent HERRICK deployment. If you deployed as a regular, please go straight to Section 5

Please answer these questions about your most recent HERRICK deployment ticked on page 12.

4.32 Were you in civilian employment at the time of your call-up for deployment?

- Yes ☐¹
 No ☐²
 Already in FTRS or equivalent ☐³

4.33 Did you feel pressure from your unit to volunteer for the deployment?

- Yes, from formal chain of command ☐¹
 Yes, from mates within unit ☐²
 No, I did not feel pressure ☐³
 Not applicable ☐⁴

4.34 Post-deployment, did you return to the same job you held before your mobilisation?

- Yes ☐¹
 No, resigned at time of call-up/mobilisation ☐²
 No, contract of employment ended just before/during deployment ☐³
 No, employer **kept job** open for me but I chose not to return ☐⁴
 No, employer **did not keep** job open for me, but I wanted to return ☐⁵
 No, employer **did not keep** job open for me, and I didn't want to return ☐⁶
 No, other reason (please specify) ☐⁷

4.35 If you returned to the same job, were any of the following a problem?

- | | Yes ¹ | No ² | Not applicable ³ |
|--|--------------------------|--------------------------|-----------------------------|
| a) Loss of seniority, promotion opportunity, or responsibility in civilian job | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b) Loss of income during call-up | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c) Lack of support or resentment from co-workers | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| d) Lack of support from employer | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

SECTION 5 - Your health and lifestyle

5.1 Have you EVER experienced or suffered any of the following? (Please tick ONE for each statement)

	Yes ¹	No ²
a) Arthritis.....	<input type="checkbox"/>	<input type="checkbox"/>
b) Allergy (e.g. eczema, asthma, rhinitis)	<input type="checkbox"/>	<input type="checkbox"/>
c) Angina	<input type="checkbox"/>	<input type="checkbox"/>
d) Alcohol problems	<input type="checkbox"/>	<input type="checkbox"/>
e) Back problems	<input type="checkbox"/>	<input type="checkbox"/>
f) Chronic Fatigue Syndrome	<input type="checkbox"/>	<input type="checkbox"/>
g) Purposely harmed yourself (e.g. overdose)	<input type="checkbox"/>	<input type="checkbox"/>
h) Depression	<input type="checkbox"/>	<input type="checkbox"/>
i) Diabetes	<input type="checkbox"/>	<input type="checkbox"/>
j) Epilepsy	<input type="checkbox"/>	<input type="checkbox"/>
k) Lower limb injuries.....	<input type="checkbox"/>	<input type="checkbox"/>
l) Gallstones	<input type="checkbox"/>	<input type="checkbox"/>
m) Heart attack	<input type="checkbox"/>	<input type="checkbox"/>
n) High blood pressure.....	<input type="checkbox"/>	<input type="checkbox"/>
o) Malaria	<input type="checkbox"/>	<input type="checkbox"/>
p) Panic/anxiety symptoms	<input type="checkbox"/>	<input type="checkbox"/>
q) Pneumonia	<input type="checkbox"/>	<input type="checkbox"/>
r) Stomach/duodenal ulcer	<input type="checkbox"/>	<input type="checkbox"/>
s) Tuberculosis	<input type="checkbox"/>	<input type="checkbox"/>
t) Post Traumatic Stress Disorder	<input type="checkbox"/>	<input type="checkbox"/>
u) Kidney problems	<input type="checkbox"/>	<input type="checkbox"/>
v) Hearing problems	<input type="checkbox"/>	<input type="checkbox"/>

5.2 In the last 5 years, have you had any serious accidents Yes ☐¹ No ☐² (If NO, go to 5.4)
(e.g. been taken to an A & E department or similar)

5.3 If yes, were these caused by: (Tick all that apply)

a) Road traffic accident	<input type="checkbox"/>
b) A sport/leisure activity	<input type="checkbox"/>
c) An accident at home.....	<input type="checkbox"/>
d) An event outside your control (e.g. flood)	<input type="checkbox"/>
e) Work-related	<input type="checkbox"/>
f) Drink-related	<input type="checkbox"/>
g) Military training	<input type="checkbox"/>
h) Military operations	<input type="checkbox"/>
i) Fights/assaults	<input type="checkbox"/>
j) Other (Please specify)	<input type="checkbox"/>

The following questions are about your health **NOW**

5.4 In general, how would you rate your health?

Excellent ☐¹ Very good ☐² Good ☐³ Fair ☐⁴ Poor ☐⁵

5.5 Does your health limit you in vigorous activities such as running, lifting heavy objects, participating in strenuous sports etc.? For example, football. (Please tick **ONE** box)

No, not limited at all ☐¹ Yes, limited a little ☐² Yes, limited a lot ☐³

5.6 In the **PAST MONTH**, to what extent has your physical health or any emotional problems interfered with your normal social activities with family, friends, neighbours, or groups? (Please tick **ONE** box)

Not at all ☐¹ Slightly ☐² Moderately ☐³ Quite a bit ☐⁴ Extremely ☐⁵

5.7 In the **PAST MONTH**, have you had any of the following problems with your work or other regular daily activities as a result of your physical health? (Please tick **ONE** box on each line)

	Yes ¹	No ²
a) Cut down on the amount of time you spent on work or other activities	<input type="checkbox"/>	<input type="checkbox"/>
b) Accomplished less than you would like.....	<input type="checkbox"/>	<input type="checkbox"/>
c) Were limited in the kind of work or other activities	<input type="checkbox"/>	<input type="checkbox"/>
d) Had difficulty performing the work or other activities (e.g. it took extra effort)	<input type="checkbox"/>	<input type="checkbox"/>

5.8 Please choose the answer that best describes how true or false each of the following statements are for you. (Please tick **ONE** box on each line)

	Definitely True ¹	Mostly True ²	Mostly False ³	Definitely False ⁴
a) I seem to get ill more easily than other people.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) I expect my health to get worse	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) I am as healthy as anybody I know	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) My health is excellent.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5.9 During the **PAST MONTH**, how often did you:(Please tick **ONE** box on each line)

	Never ¹	Once ²	Twice ³	3-4 times ⁴	5 + ⁵
a) Get angry at someone and yell or shout at them.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Get angry with someone and kick or smash something, slam the door, punch the wall etc	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Get into a fight with someone and hit the person	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Threaten someone with physical violence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

YOUR HEALTH AND LIFESTYLE

5.10 Please indicate whether you have had any of the following symptoms in the PAST MONTH. We would also like to know how bad the symptom has been.

	Have you had this symptom in the <u>past month</u> ? ^a		If yes, how bad has it been? ^b		
	Yes 1	No 2	Mild 1	Moderate 2	Severe 3
Chest pain ¹	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Headaches ²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rapid heartbeat ³	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Irritability/outbursts of anger ⁴	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Unable to breathe deeply enough ⁵	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Faster breathing than normal ⁶	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Feeling short of breath at rest ⁷	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wheezing ⁸	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sleeping difficulties ⁹	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Feeling jumpy/easily startled ¹⁰	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Feeling unrefreshed after sleep ¹¹	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fatigue ¹²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Double vision ¹³	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Intolerance to alcohol ¹⁴	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Itchy or painful eyes ¹⁵	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shaking ¹⁶	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tingling in fingers and arms ¹⁷	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tingling in legs and toes ¹⁸	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Numbness in fingers/toes ¹⁹	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Feeling distant or cut off from others ²⁰	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Constipation ²¹	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Flatulence or burping ²²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Stomach cramp ²³	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Diarrhoea ²⁴	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dry mouth ²⁵	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Persistent cough ²⁶	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lump in throat ²⁷	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sore throat ²⁸	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Forgetfulness ²⁹	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Have you had this symptom in the <u>past month</u> ? ^a			If yes, how bad has it been? ^b		
	Yes 1	No 2	Mild 1	Moderate 2	Severe 3
Dizziness ³⁰	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Feeling disorientated ³¹	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Loss of concentration ³²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pain on passing urine ³³	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Passing urine more often ³⁴	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Burning sensation in the sex organs ³⁵	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Loss of interest in sex ³⁶	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Increased sensitivity to noise ³⁷	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Increased sensitivity to light ³⁸	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ringing in the ears ³⁹	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Avoiding doing things/situations ⁴⁰	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pain, without swelling or redness in several joints ⁴¹	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Joint stiffness ⁴²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Feeling that your bowel movement is not finished ⁴³	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Changeable bowel function (mixture of diarrhoea /constipation) ⁴⁴	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nightsweats which soak the bedsheets ⁴⁵	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Feeling feverish ⁴⁶	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Loss or decrease in appetite ⁴⁷	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nausea ⁴⁸	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vomiting ⁴⁹	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Distressing dreams ⁵⁰	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Stomach bloating ⁵¹	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Unintended weight gain greater than 10lbs ⁵²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Unintended weight loss greater than 10lbs ⁵³	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

YOUR HEALTH AND LIFESTYLE

5.11 Here are some general questions about your health.

Please answer ALL the questions on the page by **CIRCLING** the answer which you think most closely applies to you.

Within the LAST FEW WEEKS have you:

	0	1	2	3
a) been able to concentrate on whatever you're doing?	Better than usual	Same as usual	Less than usual	Much less than usual
b) lost much sleep over worry?	Not at all	No more than usual	Rather more than usual	Much more than usual
c) felt that you are playing a useful part in things?	More so than usual	Same as usual	Less useful than usual	Much less useful
d) felt capable of making decisions about things?	More so than usual	Same as usual	Less so than usual	Much less capable
e) felt constantly under strain?	Not at all	No more than usual	Rather more than usual	Much more than usual
f) felt you couldn't overcome your difficulties?	Not at all	No more than usual	Rather more than usual	Much more than usual
g) been able to enjoy your normal day to day activities?	More so than usual	Same as usual	Less so than usual	Much less than usual
h) been able to face up to your problems?	More so than usual	Same as usual	Less able than usual	Much less able
i) been feeling unhappy and depressed?	Not at all	No more than usual	Rather more than usual	Much more than usual
j) been losing confidence in yourself?	Not at all	No more than usual	Rather more than usual	Much more than usual
k) been thinking of yourself as a worthless person?	Not at all	No more than usual	Rather more than usual	Much more than usual
l) been feeling reasonably happy, all things considered?	More so than usual	About the same as usual	Less so than usual	Much less than usual

5.12 Here is a list of problems and complaints that people sometimes have in relation to stressful experiences. How much have you been bothered by these problems in the PAST MONTH?

Please read each one carefully, then tick the answer which you think most applies to you.

	Not at all 1	A little bit 2	Moderately 3	Quite a bit 4	Extremely 5
a) Repeated, disturbing memories, thoughts, or images of a stressful experience?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Repeated, disturbing dreams of a stressful experience?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Suddenly acting or feeling as if a stressful experience were happening again (as if you were re-living it)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Feeling very upset when something reminded you of a stressful experience?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Having physical reactions (e.g. heart pounding, trouble breathing, sweating) when something reminded you of a stressful experience?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Avoiding thinking about or talking about a stressful experience?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Avoiding activities or situations because they reminded you of a stressful experience?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h) Trouble remembering important parts of a stressful experience?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i) Loss of interest in activities that you used to enjoy?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j) Feeling distant or cut-off from other people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
k) Feeling emotionally numb or being unable to have loving feelings to those who are close to you?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
l) Feeling as if your future will somehow be cut short?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
m) Having trouble falling or staying asleep?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
n) Feeling irritable or having angry outbursts?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
o) Having difficulty concentrating?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
p) Being super alert, watchful or on-guard?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
q) Feeling jumpy or easily startled?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5.13 If you experienced ANY of the problems in 5.12, how DIFFICULT have these problems made it for you to do your work, take care of things at home, or get along with other people?

Not difficult at all ☐¹ Somewhat difficult ☐² Very difficult ☐³ Extremely difficult ☐⁴

YOUR HEALTH AND LIFESTYLE

Here are some questions about your lifestyle.

5.14 How often do you use your seatbelt when you drive or ride in a car/vehicle?

Always ☐¹ Nearly Always ☐² Sometimes ☐³ Seldom ☐⁴ Never ☐⁵

5.15 Do you drive?

Yes ☐¹ No ☐² (If NO, go to 5.18)

5.16 When you are driving in a built up area, how close to the speed limit do you usually drive?

Within 5 miles per hour ☐¹
6-10 miles per hour above the limit ☐²
More than 10 miles per hour above the limit ☐³

5.17 When you are driving on a motorway, how close to the speed limit do you usually drive?

Within 10 miles per hour ☐¹
11-20 miles per hour above the limit ☐²
More than 20 miles per hour above the limit ☐³

5.18 How many times in the **LAST THREE MONTHS** did you drive when you were probably over the legal limit of alcohol **OR** ride with a driver who was probably over the limit?

..... times in the last three months

5.19 How old were you the first time you tried alcohol without your parents' permission?

..... years of age

5.20 How often do you have a drink containing alcohol?

Never ☐¹ 2 times a week ☐⁴
Monthly or less ☐² 3 times a week ☐⁵
2-4 times a month ☐³ 4 times or more a week ☐⁶

5.21 How many **UNITS** of alcohol do you have on a typical day when you are drinking?

1 or 2 ☐¹ 10 to 14 ☐⁵
3 or 4 ☐² 15 to 19 ☐⁶
5 or 6 ☐³ 20 to 29 ☐⁷
7 to 9 ☐⁴ 30 or more ☐⁸

A pint of standard beer / lager = 2 units.

A pint / can of strong beer / lager = 3 units.

A single measure of spirit / small glass of wine = 1 unit.

A bottle of alcopop (e.g. Smirnoff Ice) = 1.5 units

5.22 How often do you have six or more units on one occasion?

Never	<input type="checkbox"/> ¹	Weekly	<input type="checkbox"/> ⁴
Less than monthly	<input type="checkbox"/> ²	Daily/almost daily	<input type="checkbox"/> ⁵
Monthly	<input type="checkbox"/> ³		

5.23 How often during the PAST YEAR have you found that you were not able to stop drinking once you had started?

Never	<input type="checkbox"/> ¹	Weekly	<input type="checkbox"/> ⁴
Less than monthly	<input type="checkbox"/> ²	Daily/almost daily	<input type="checkbox"/> ⁵
Monthly	<input type="checkbox"/> ³		

5.24 How often during the PAST YEAR have you failed to do what was normally expected of you because of drinking?

Never	<input type="checkbox"/> ¹	Weekly	<input type="checkbox"/> ⁴
Less than monthly	<input type="checkbox"/> ²	Daily/almost daily	<input type="checkbox"/> ⁵
Monthly	<input type="checkbox"/> ³		

5.25 How often during the PAST YEAR have you needed a first drink in the morning to get yourself going after a drinking session?

Never	<input type="checkbox"/> ¹	Weekly	<input type="checkbox"/> ⁴
Less than monthly	<input type="checkbox"/> ²	Daily/almost daily	<input type="checkbox"/> ⁵
Monthly	<input type="checkbox"/> ³		

5.26 How often during the PAST YEAR have you had a feeling of guilt or remorse after drinking?

Never	<input type="checkbox"/> ¹	Weekly	<input type="checkbox"/> ⁴
Less than monthly	<input type="checkbox"/> ²	Daily/almost daily	<input type="checkbox"/> ⁵
Monthly	<input type="checkbox"/> ³		

5.27 How often during the PAST YEAR have you been unable to remember what happened the night before because you had been drinking?

Never	<input type="checkbox"/> ¹	Weekly	<input type="checkbox"/> ⁴
Less than monthly	<input type="checkbox"/> ²	Daily/almost daily	<input type="checkbox"/> ⁵
Monthly	<input type="checkbox"/> ³		

5.28 Have you or has someone else been injured as a result of your drinking?

No ☐¹ Yes, but not in the past year ☐² Yes, during the past year ☐³

5.29 Has a relative / friend / health worker been concerned about your drinking / suggested you cut down?

No ☐¹ Yes, but not in the past year ☐² Yes, during the past year ☐³

YOUR HEALTH AND LIFESTYLE

5.30 Do you currently smoke?

Yes ☐¹ No ☐² (If NO, go to 5.32)

5.31 How many cigarettes, cigars or rollups do you smoke a day? per day

These questions are about your family and social life

5.32 Please indicate which of the following organisations you belong to or social activities you regularly choose to do outside of work: (please tick ALL that apply)

- a) Team sports or outdoor pursuits.....☐
 b) Further education.....☐
 c) Religious gatherings/societies☐
 d) Social or hobby-related clubs☐
 e) Voluntary services☐
 f) Visiting friends/family.....☐
 g) Going to pubs/clubs.....☐
 h) Going to watch sporting events with friends☐
 i) Going to the gym with friends☐
 j) Other (please specify)☐

5.33 How many close friends or relatives do you meet and/or talk to on a regular basis?

None☐¹ 6-10☐⁴
 1-2☐² 11-15☐⁵
 3-5☐³ More than 15.....☐⁶

5.34 Are most of the people you socialise with involved in the military?

Yes ☐¹ No ☐²

5.35 How satisfied are you with your marriage/relationship?

Extremely satisfied☐¹ Dissatisfied☐⁴
 Satisfied☐² Extremely dissatisfied☐⁵
 Neither satisfied or dissatisfied.....☐³ Not applicable.....☐⁶

5.36 Have you or your spouse/partner seriously suggested the idea of divorce or permanent separation within the LAST YEAR?

Yes☐¹
 No☐²
 Not applicable☐³

5.37 Overall, what impact has your military career had on your:**a) Marriage/relationship**No impact ☐¹ Positive impact ☐² Negative impact ☐³ Not applicable ☐⁴**b) Children**No impact ☐¹ Positive impact ☐² Negative impact ☐³ Not applicable ☐⁴**5.38 If you are serving full time in the Armed Forces, which of the following best describes your current career intentions? (Please tick ONE box)**Plan to stay for as long as possible or until retirement ☐¹Plan to extend my present term of service but not necessarily until retirement ☐²Plan to leave on completion of my current term of service ☐³Plan to leave before the end of my current term of service ☐⁴Have already handed in my Premature Voluntary Release (PVR) ☐⁵Already left ☐⁶**And finally...****Only answer the questions in the shaded box if you are a RESERVIST****5.39 Has your employer ever requested or put pressure on you to leave the Reserve Forces?**Yes ☐¹ No ☐²**5.40 For the foreseeable future, do you intend to stay in the Reserve Forces?**Yes ☐¹ No ☐²**5.41 If NO, what has influenced your decision to leave? (Please tick ALL that apply)**a) Family commitments/welfare ☐b) Civilian career or business commitments ☐c) Health/fitness concerns ☐d) Age ☐e) Dissatisfaction with the Armed Forces ☐f) Do not want to deploy ☐g) Other (please specify) ☐

.....

Thank you for completing this questionnaire - please turn over...

If you feel that there is anything we have not asked you about, which you feel is important,
please describe it here. *Continue overleaf if you need to.*

Inside Back Cover

**Please make sure you have completed contact, consent
and prize draw details at the beginning of this questionnaire.**

Please make sure you have completed all the sections relevant to you.

EVERYONE SHOULD HAVE COMPLETED SECTIONS 1 & 5

THANK YOU FOR COMPLETING THIS QUESTIONNAIRE

PLEASE RETURN IN THE PRE-PAID ENVELOPE PROVIDED

Appendix 3 Residential transience excluding homeowners

As described in Chapter 11.3.1, the analysis of factors associated with residential transience was performed a second time, excluding home-owners. The results of that analysis are shown in Table A3-1.

Table A3-1 Military and socio-demographic factors associated with residential transience, excluding homeowners

<i>Category (n = 1,675)</i>	<i>Crude IRR (95% CI)¹²⁹</i>	<i>Adjusted IRR¹³⁰ (95% CI)</i>
<i>Pre-enlistment variables</i>		
Sex		
Male	1	1
Female	1.03 (0.81-1.30)	0.95 (0.74-1.21)
Pre-enlistment vulnerability (per count)	1.05 (1.03-1.08)***	1.08 (1.04-1.11)***
<i>Military variables</i>		
Service		
Royal Navy	0.72 (0.58-0.90)**	0.87 (0.70-1.09)
Army/Royal Marines	1	1
RAF	0.77 (0.61-0.96)*	0.98 (0.78-1.23)
Rank		
Officer	1.28 (1.04-1.57)*	1.49 (1.21-1.85)***
NCO	1	1
Other rank	1.26 (1.04-1.53)*	0.74 (0.60-0.92)**
Length of service (per year)	0.96 (0.95-0.97)***	0.95 (0.94-0.96)***
Role in parent unit		
Combat	1.22 (0.99-1.50)	0.97 (0.76-1.24)
Combat Support	1.16 (0.89-1.52)	1.04 (0.78-1.39)
Combat Support Services	1	1
Deployment on HERRICK/TELIC		
Yes	1	1
No	0.75 (0.64-0.89)**	0.90 (0.76-1.07)
Method of leaving		
Voluntary	1	1
Involuntary	1.39 (1.07-1.80)*	1.25 (0.98-1.60)

¹²⁹ Adjusted for home ownership.

¹³⁰ Adjusted for home ownership, pre-enlistment vulnerability, Service arm, rank, length of service, method of leaving, relationship status, and having children (and using time since leaving as the exposure variable).

<i>Category (n = 1,675)</i>	<i>Crude IRR (95% CI)</i>	<i>Adjusted IRR (95% CI)</i>
<i>Post-service/current variables</i>		
Relationship status		
Single	1.30 (1.06-1.59)*	1.10 (0.89-1.37)
Long-term relationship	1	1
Has children		
Yes	1	1
No	1.24 (1.05-1.47)*	1.20 (1.01-1.43)*
Education¹³¹		
O-levels-	1.10 (0.91-1.33)	0.98 (0.81-1.19)
A-levels+	1	1
<i>Resettlement</i>		
Entitlement to resettlement		
Yes	1	1
No	1.24 (0.99-1.55)	0.81 (0.63-1.05)
Taking resettlement (for those entitled)		
Yes	1	1
No	0.97 (0.75-1.27)	0.90 (0.69-1.16)

* p < 0.05

** p < 0.01

*** p < 0.001

¹³¹ Excludes commissioned officers, as almost all officers have higher education and hence education is effectively co-linear with rank for officers.